
**Oceano Dunes District
Routine Riparian Maintenance
Mitigated Negative Declaration/
Initial Study**

October 2012



**State of California
Department of Parks and Recreation
Off-Highway Motor Vehicle Recreation Division**

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Initial Study

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Prepared for:
State of California
Department of Parks and Recreation
Off-Highway Motor Vehicle Recreation Division



Prepared by:
TRA Environmental Sciences, Inc.
545 Middlefield Road, Suite 200
Menlo Park, CA 94025
(650) 327-0429
(650) 327-4024 Fax
www.traenviro.com

MITIGATED NEGATIVE DECLARATION

PROJECT: Oceano Dunes District, Routine Riparian Maintenance

LEAD AGENCY: California Department of Parks and Recreation (CDPR), Off-Highway Motor Vehicle Recreation (OHMVR) Division

AVAILABILITY OF DOCUMENTS: The Initial Study for this Mitigated Negative Declaration is available for review at:

- CDPR, Oceano Dunes District Office
340 James Way, Ste. 270
Pismo Beach, CA 93449
(805) 773-7180
Contact – Ronnie Glick
- CDPR, OHMVR Division
1725 23rd Street, Suite 200
Sacramento, CA 95816
(916) 445-9152
Contact – Ryan Miller

PROJECT DESCRIPTION

OHMVR Division proposes the following riparian maintenance activities to facilitate resource protection at Pismo State Beach and Oceano Dunes State Vehicular Recreation Area (SVRA):

1. Culvert Maintenance. Culverts would be cleaned of debris, vegetation, and sediment on an as-needed basis. Culverts would be cleaned manually or, for larger jobs, using a back-hoe. The clean out would occur at the following sites: two culverts at Oso Flaco Lake, two culverts at Meadow Creek Access Road, and eleven culverts at Meadow and Carpenter Creeks at North Beach Campground.
2. Spillway Maintenance at Pismo Lake. Routine maintenance of the spillway is occasionally needed to remove vegetation and other debris blocking the spillway. The work would involve manual removal of tule root balls, dead or downed woody material, and other debris or sedimentation in the spillway.
3. Riparian Tree and Shrub Maintenance. This activity would involve removing dead and downed trees, trimming obstructing or damaged limbs less than four inches in diameter, and trimming tree canopies. Shrubs would be cut up to four feet from the edge of the road, path, or trail. This work would happen at the Oso Flaco Natural Area, Oceano Lagoon, and Meadow Creek (North Beach Trail, Maintenance Yard, and Ranger Station).
4. Emergent Species Control. This activity would involve the management of the growth of emergent plants within Meadow Creek and Carpenter Creek to prevent the choking up of the creek by the vegetation and allow water to move through the creeks unhindered.
5. This activity would involve the removal or management of exotic pest plants including: Cape ivy, Boston/English ivy, Pampas grass, and Italian thistle from within the riparian plant community. This work would happen at Grand Avenue, the Oso Flaco Natural Area, Oceano Lagoon, and Meadow Creek.

The project would affect an annual maximum of approximately 0.30 acres of wetlands for culvert maintenance, spillway maintenance, and emergent species control. Approximately two miles of vegetation would be subject to riparian tree and shrub maintenance and spot treatment to control exotic plant species.

PROPOSED FINDING

The OHMVR Division has reviewed the attached Initial Study and determined that the Initial Study identifies potentially significant project effects, but:

1. Revisions to the project plans and incorporated herein as mitigation would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
2. There is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment. Pursuant to California Environmental Quality Act (CEQA) Guidelines Sections 15064(f)(3) and 15070(b), a Mitigated Negative Declaration has been prepared for consideration as the appropriate CEQA document for the project.

BASIS OF FINDING

Based on the environmental evaluation presented in the attached Initial Study, the project would not cause significant adverse effects related to aesthetics, agricultural and forestry resources, air quality, cultural resources, geology/soils, greenhouse gas emissions, hazards/hazardous materials, hydrology/water quality, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation/traffic, and utilities/service systems. In addition, substantial adverse effects on humans, either direct or indirect, would not occur. The project does not affect any important examples of the major periods of California prehistory or history. The project does not have impacts that are individually limited, but cumulatively considerable.

The project could result in significant adverse effects to special-status plant and wildlife species. However, the project has been revised to include the following measures, which reduce these impacts to a less-than-significant level. With implementation of these measures, the project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal.

Impact BIO-1: Marsh sandwort, La Graciosa thistle, and Gambel's watercress could be present at project work sites in the Oso Flaco Lake area. All three plants are federal endangered species. Additionally, marsh sandwort is state endangered, and La Graciosa thistle and Gambel's watercress are state threatened. Culvert maintenance at the Oso Flaco Causeway would cause ground disturbance that could harm these plants if present.

Mitigation BIO-1: OHMVR Division shall conduct pre-activity surveys to confirm absence of Marsh sandwort, La Graciosa thistle, and Gambel's watercress prior to commencing ground disturbance activities in potential habitat areas. If the plants are found during pre-activity surveys, including any Gambel's watercress hybrids, the work would not commence until USFWS and CDFG are contacted and avoidance measures are implemented. These measures shall include flagging the area that supports the species and informing all workers of the need to stay out of flagged area. If marsh sandwort or Gambel's watercress are found blocking a culvert, every effort will be made to identify such plants before they are removed. If feasible and in consultation with the agencies, the plant may be salvaged and relocated.

Impact BIO-2: California red-legged frog (CRLF), a federal threatened and state species of special concern, is not known to occur in the proposed riparian maintenance work areas but could be present. Egg masses, larvae, or adult frogs present in the project area could be harmed by culvert and spillway maintenance and the removal of emergent vegetation. Maintenance activity can indirectly attract CRLF predators into the potential CRLF habitat areas.

Mitigation BIO-2a: Culvert maintenance shall be done during periods when egg masses or larvae are unlikely to occur in the project area, e.g., low flow periods. A USFWS-approved biologist shall survey the work site two weeks before the onset of activities in or near ponded or flowing water. If CRLF adults, tadpoles, or eggs are found, work shall not commence until the USFWS is contacted and avoidance measures are in place. The following measures shall be implemented along with any measures identified by the USFWS during the consultation process:

1. Any CRLF life-stages found in the project work area may be relocated upon determination by the USFWS that an appropriate relocation site exists and relocation is the preferred avoidance method. If the USFWS approves moving animals, the approved biologist shall be allowed sufficient time to move CRLF from the work site before work activities begin. Only USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of CRLF.
2. Before any project activities occur at a maintenance site, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the CRLF and its habitat, the importance of the CRLF and its habitat, the general measures that are being implemented to conserve the CRLF as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.
3. A USFWS-approved biologist shall be present at the work site until such time as all removal of CRLF, instruction of workers, and habitat disturbance have been completed. After this time, the contractor or permittee shall designate a person to monitor on-site compliance with all minimization measures. The USFWS-approved biologist shall ensure that this individual receives training outlined above and in the identification of CRLF. The monitor and the USFWS-approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USFWS during review of the proposed action. If work is stopped, the USFWS shall be notified immediately by the USFWS-approved biologist or on-site biological monitor.

Mitigation BIO-2b: The following best management practices shall be implemented to avoid attracting CRLF predators into potential CRLF habitat.

1. After removal of emergent vegetation in the stream channel, disturbed areas with the potential to pond water shall be smoothed with a rake to avoid creation of potential habitat for CRLF predators, including bull frogs and crayfish.
2. Any CRLF predators, e.g., bull frog and non-native red swamp crayfish, shall be removed by an approved staff biologist.
3. Trash that attracts predators of CRLF (i.e., raccoon) shall be removed from the proposed work area.

Impact BIO-3: Western pond turtle (WPT), a state species of special concern, is not known to occur within the project work areas but could be present. If present, culvert and spillway maintenance and the removal of emergent vegetation from could result in disturbance or harm to individual WPT.

Mitigation BIO-3: A qualified biologist shall conduct a pre-construction survey for WPT in the project work area prior to commencing project activities. A combination of visual and trapping surveys may be performed with authorization from CDFG. If the species is found present in the work area, the biologist with approval from CDFG may capture turtles prior to maintenance activities and relocate them to nearby, suitable habitat a minimum of 300 feet downstream from

the work area. Exclusion fencing shall then be installed if feasible to prevent turtles from reentering the work area for the duration of maintenance work.

Impact BIO-4: California least tern (CLT), a federal endangered and state endangered species, may be foraging at Pismo Lake, Oceano Lagoon, and Oso Flaco Lake work sites. Noise from power equipment used during maintenance activities could disrupt foraging if least terns are present.

Mitigation BIO-4: CLT shall be protected from harm during work conducted at the Oceano Lagoon, Pismo Lake, and Oso Flaco Lake through monitoring of the treatment activity by qualified biologists. If any work is scheduled between April 15 and September 15, qualified biologists shall be on site during activities taking place at the Oceano Lagoon, Pismo Lake, and Oso Flaco Lake. If least terns are not foraging nearby or biologists observing least tern foraging activity determine that least terns would not be disturbed by the work, it may proceed as planned. However, if least terns are present and have the potential of being disturbed, the biologist shall direct work to stop within 250 feet of the bird until it leaves on its own accord.

Impact BIO-5: Tidewater goby (TWG), a federal endangered species, could occur within the project work area. If present, culvert maintenance and the removal of emergent vegetation from could result in harm to individual TWG.

Mitigation BIO-5: A qualified biologist shall conduct a pre-construction survey for TWG in Carpenter Creek prior to commencing project activities. If TWG is present in the work area, the biologist will consult with USFWS to determine suitable avoidance/minimizations measures. Such measures may include 1) avoidance through worker education and establishing fencing or otherwise demarcating a barrier between the work site and the TWG population or 2) relocation.

RECORD OF PROCEEDINGS AND CUSTODIAN OF DOCUMENTS

The record, upon which all findings and determinations related to the approval of the Project are based, includes the following:

1. The Mitigated Negative Declaration and all documents referenced in or relied upon by the Mitigated Negative Declaration.
2. All information (including written evidence and testimony) provided by OHMVR Division staff to the decision maker(s) relating to the Mitigated Negative Declaration, the approvals, and the Project.
3. All information (including written evidence and testimony) presented to the OHMVR Division by the environmental consultant who prepared the Mitigated Negative Declaration or incorporated into reports presented to the OHMVR Division.
4. All information (including written evidence and testimony) presented to the OHMVR Division from other public agencies and members of the public related to the Project or the Mitigated Negative Declaration.
5. All applications, letters, testimony, and presentations relating to the Project.
6. All other documents composing the record pursuant to Public Resources Code section 21167.6(e).

The OHMVR Division is the custodian of the documents and other materials that constitute the record of the proceedings upon which the OHMVR Division's decisions are based. The contact for this material is:

Mr. Ronnie Glick
Oceano Dunes District Office
340 James Way, Suite 270
Pismo Beach, CA 93449
(805) 773-7170

Pursuant to Section 21082.1 of CEQA, the OHMVR Division has independently reviewed and analyzed the Initial Study and Mitigated Negative Declaration for the proposed project and finds these documents reflect the independent judgment of the OHMVR Division.

**OCEANO DUNES DISTRICT
ROUTINE RIPARIAN MAINTENANCE INITIAL STUDY
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Affecting California Red-Legged Frog, U.S. Fish and Wildlife Service

Chapter 1 INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

This Initial Study has been prepared by the Off-Highway Motor Vehicle Recreation (OHMVR) Division of the California Department of Parks and Recreation (CDPR) to evaluate the potential effects of routine riparian maintenance work at both Oceano Dunes State Vehicular Recreation Area (SVRA) and Pismo State Beach in Oceano, California (Figure 1). The proposed work includes culvert and spillway maintenance, riparian tree and shrub maintenance, emergent species control, and exotic species control (see Chapter 2).

The California Environmental Quality Act (CEQA; Public Resources Code [PRC] § 21000 *et seq.*) and the CEQA Guidelines (14 CCR §15000 *et seq.*) establish the OHMVR Division as the lead agency. The lead agency is defined in CEQA Guidelines Section 15367 as “the public agency which has the principal responsibility for carrying out or approving a project.” The lead agency decides whether an Environmental Impact Report (EIR) or Negative Declaration is required for the project and is responsible for preparing the appropriate environmental review document.

According to CEQA Guidelines Section 15070, a public agency shall prepare a proposed Negative Declaration or a Mitigated Negative Declaration when:

1. The Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or,
2. The Initial Study identifies potentially significant effects, but:
 - Revisions in the project plans made before a proposed Mitigated Negative Declaration and Initial Study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
 - There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

Pursuant to Section 15070, the OHMVR Division has determined a Mitigated Negative Declaration is the appropriate environmental review document for the Routine Riparian Maintenance Project.

1.2 LEAD AGENCY CONTACT INFORMATION

The lead agency for the proposed project is the OHMVR Division, the agency that would be approving and carrying out the project. The contact person for the lead agency is:

Ronnie Glick – Senior Environmental Scientist
Oceano Dunes District
340 James Way, Ste. 270
Pismo Beach, CA 93449
(805) 773-7180

1.3 DOCUMENT PURPOSE AND ORGANIZATION

The purpose of this document is to evaluate the potential environmental effects of the routine riparian maintenance at several sites within the Oceano Dunes District.

This document is organized as follows:

- Chapter 1 – Introduction

This chapter provides an introduction to the project and describes the purpose and organization of this document.

- Chapter 2 – Project Description

This chapter describes the project location, project area, and site description, objectives, characteristics and related projects.

- Chapter 3 – Environmental Checklist and Responses

This chapter contains the Environmental Checklist that identifies the significance of potential environmental impacts (by environmental issue) and provides a brief discussion of each impact resulting from implementation of the proposed project. This chapter also contains the Mandatory Findings of Significance.

- Chapter 4 – References

This chapter identifies the references and sources used in the preparation of this Initial Study.

- Chapter 5 – Report Preparation

This chapter provides a list of those involved in the preparation of this document.

1.4 REQUIRED PERMITS AND APPROVALS

The following permits, authorizations, or approvals may be required for this project:

- City of Pismo Beach, San Luis Obispo County, and/or California Coastal Commission: Coastal Development Permit (CDP)
- California Department of Fish and Game (CDFG): California Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement
- Regional Water Quality Control Board (RWQCB): permit requirement, if any, to be determined
- U.S. Fish and Wildlife Service (USFWS): Endangered Species Act incidental take permit (Section 10) for the federal threatened California red-legged frog (*Rana draytonii*) and the federal endangered tidewater goby (*Eucyclogobius newberryi*) may be required pending consultation

Chapter 2 PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND SITE DESCRIPTION

OHMVR Division proposes to conduct routine riparian maintenance activities at several sites within Pismo State Beach and Oceano Dunes SVRA in the community of Oceano, San Luis Obispo County, California (Figure 1). Pismo State Beach and Oceano Dunes SVRA are contiguous parks located 12 miles south of the City of San Luis Obispo along the Pacific Ocean adjacent to the “Five Cities” area of Shell Beach, Pismo Beach, Grover Beach, Oceano, and Arroyo Grande. The southern end of Oceano Dunes SVRA is located three miles north of the City of Guadalupe.

The project maintenance sites would occur in multiple riparian locations throughout Pismo State Beach and Oceano Dunes SVRA (Figure 2) as follows:

Pismo Lake (Figure 3). Pismo Lake is located on the east side of State Route 1 across from the North Beach Campground and Monarch Butterfly Grove at Pismo State Beach (Photo 1). It drains down a spillway lined with concrete rip-rap and through a culvert below the Union Pacific railroad tracks into Meadow Creek. Access to Pismo Lake spillway is from Front Street.



Photo 1: Pismo Lake

Meadow Creek and Carpenter Creek near the North Beach Campground (Figure 3). From its confluence with the Pismo Lake spillway, Meadow Creek flows south beneath State Route 1 and passes along the southeastern corner of the North Beach Campground near Monarch Grove. The Monarch Grove Bridge and North Beach Trail Foot Bridge provide access across Meadow Creek. The flood pump station on Meadow Creek is located on the backside of the Monarch Grove, within the North Beach Campground.



Photo 2: Carpenter Creek

Carpenter Creek splits from Meadow Creek at the southern campground boundary and flows west out to the ocean (Photo 2). The North Beach Campground contains 104 developed campsites (including tent and RV campsites) with hot showers. Access to North Beach Campground is from State Route 1.

Meadow Creek near Grand Avenue and State Route 1

Figure 4). South of the North Beach Campground, Meadow Creek flows through a culvert underneath Grand Avenue. Creek flows create the Grand Dunes Lake, which supports thick willow vegetation and is choked with sediment and overgrown with emergent vegetation (Photo 3). The Grand Dunes Lake Trail wraps around the perimeter of the lake area on the west side of the Lake; the east side is bordered by State Route 1.



Photo 3: Meadow Creek Below Grand Avenue



Photo 5: Oceano Lagoon

Meadow Creek at Maintenance Yard and Oceano Lagoon (Figure 5). Meadow Creek runs alongside the CDPR maintenance yard and ranger station at Oceano Campground, Pismo State Beach. Just south of the ranger station, it drains into Oceano Lagoon. Oceano Lagoon is a modified marsh system that functions like a freshwater marsh and lake system (Photo 5). The ranger station and maintenance yard are located at 928 Pacific Blvd. in Oceano. The access road runs from the entrance to the Ranger Station down to the Oceano Campground, which has 82 developed campsites. Alternative access to Oceano Lagoon and campground

is from State Route 1 and Pier Avenue.

Oso Flaco Natural Area (Figure 6). Located at the southern end of Oceano Dunes SVRA, the Oso Flaco Natural Area comprises approximately 800 acres and contains two fresh water lakes, willow thickets, and dune scrub vegetation. The Natural Area is accessed by the causeway, a 1,350 foot-long road bridge over Oso Flaco Lake (Photo 4). The Natural Area is designated for hiking, fishing, nature study, and other non-motorized uses. The area is closed to camping, equestrian, and vehicle use. Access to Oso Flaco Natural Area is from Oso Flaco Lake Road off State Route 1 and from the riding area at either Boneyard or Maidenform Flats.



Photo 4: Oso Flaco Lake

2.2 PROJECT OBJECTIVES

The purpose of the Routine Riparian Maintenance Project is to facilitate natural resource protection at Oceano Dunes SVRA and Pismo State Beach by maintaining drainage structures, trimming riparian trees and shrubs, and controlling emergent and exotic vegetation within riparian corridors. Restoring flow capacity of creek channels and preventing flooding during heavy storm events would prevent a loss of riparian habitat due to the disturbance of bottom sediment, soil erosion on the stream banks, and increased turbidity in water.

2.3 PROJECT DESCRIPTION

The Routine Riparian Maintenance Project involves maintenance of drainage structures and creek channels by removing accumulated debris, sediment, and emergent vegetation and management of vegetation growth and exotic species along riparian corridors and associated public trails. An overview of these activities is presented in Table 1; they are further described in the following sections. No new construction, modification or repairs to existing drainage structures, or water diversions are proposed as part of the maintenance activities. All work within the live stream channel would be done during no flow or low flow stream conditions.

Table 1. Routine Riparian Maintenance Activities	
Location	Drainage Facility/Riparian Resource to be Maintained
Culvert Maintenance	
Meadow and Carpenter Creeks at North Beach Campground	<p>Campground Loops: Five (5) culverts that drain flow into the pump flood control intake area. Sizes range from 12 to 20 feet x 24 to 30-inch diameters. Campsite #79 culvert is 21 feet x 20-inch diameter poly plastic pipe</p> <p>Pump Station: One (1) galvanized steel 21 feet x 18-inch diameter</p> <p>Wooden Foot Bridge: Two (2) galvanized steel pipes 10 feet x 16-inch diameter</p> <p>Campsites #31 and #32: Two (2) galvanized steel flap gate culverts: 50 feet x 36-inch diameter and 75 feet x 36-inch diameter. One (1) galvanized steel open culvert 50 feet x 30-inch diameter</p>
Meadow Creek at Access Road and Ranger Station	Two (2) galvanized steel pipes 40 feet x 6-foot diameter
Oso Flaco Causeway	Two (2) galvanized steel pipes 30 feet x 36 inch diameter
Spillway Maintenance	
Pismo Lake	Concrete/rip-rap spillway 375 feet in length
Riparian Tree Maintenance	
Oso Flaco Natural Area	Trees and shrubs along Oso Flaco Lake causeway, parking lot, and boardwalk
Oceano Lagoon	Trees and shrubs along Oceano Lagoon Trail
Meadow Creek at Maintenance Yard, Access Road, and Oceano Lagoon	Willows and downed trees and shrubs along creek adjacent to maintenance yard and ranger station. trees and shrubs along access road at ranger station and maintenance yard and between ranger station and Oceano Campground
Meadow Creek at North Beach Campground	Trees and shrubs along North Beach Trail
Emergent Species Control	
Meadow Creek at North Beach Campground	Beginning of Meadow Creek channel down from the Pismo spillway outflow, pump house station, and monarch bridge
Carpenter Creek at North Beach Campground	Creek channel
Exotic Species Control	
Oso Flaco Natural Area	Spot treatment of Cape ivy and other exotic plants within a three (3) acre section along the east side of Oso Flaco Lake and property; a five (5) acre section along the north side of Oso Flaco Lake and Maidenform Cascade area; a two (2) acre section between Oso Flaco Lake and service road; and the Oso Flaco parking lot, causeway, and boardwalk
Oceano Lagoon	Spot treatment of Cape ivy, Boston/English ivy, and other exotic plants within a two (2) acre section of the Oceano Lagoon and Oceano Lagoon Trail on the east side of the lagoon
Meadow Creek at Grand Avenue	Spot treatment of Cape ivy, Boston/English ivy, and other exotic plants within approx. 0.10 acres at corner of Grand Avenue and State Route 1.

Source: Oceano Dunes SVRA

2.3.1 Culvert Maintenance

There are 15 culverts located along Meadow Creek, Carpenter Creek, and the Oso Flaco Lake Causeway (Table 1) that require periodic maintenance. Culverts occasionally become clogged with plant material; the resulting blockage, especially during heavy storms, can cause a loss of habitat due to the disturbance of bottom sediment, soil erosion on the stream banks, and increased turbidity in water (Photo 7). Routine culvert maintenance would involve removal of vegetation, debris, and sediment build-up above the natural channel bed that



Photo 7: Culvert at Oso Flaco Lake Causeway



Photo 6: Culvert at North Beach Campground, Typical

limits the proper flow of water through the culvert inlet and outlet (Photo 6). Vegetative material would be cleared up to ten feet from the culvert inlet and outlet. Park staff would manually remove material using hand tools and use a back-hoe for larger jobs. All back-hoe work would occur with the equipment stabilized on the road, trail, or upper bank outside the wetted stream, lake bank, or channel; only the back-hoe bucket would enter the water body in order to lift and remove obstructing objects. The back-hoe would access all project sites from existing roads or trails.

2.3.2 Spillway Maintenance at Pismo Lake

Routine maintenance is occasionally needed to remove vegetation, sediment, and other debris blocking the concrete rip-rap spillway (Photo 8) to prevent flooding within Pismo Lake. Ongoing maintenance within the spillway would be limited to the manual removal of tule root balls (Photo 3), dead and downed wood material, and other debris or sedimentation in the spillway.

Crews would enter the spillway and may use either hand or hand power tools to trim obstructing branches less than four inches in diameter from trees and shrubs along the spillway. A chainsaw may be necessary if a fallen tree or a large limb is blocking the spillway.



Photo 8: Pismo Lake Spillway

2.3.3 Riparian Tree and Shrub Maintenance

Riparian tree maintenance would remove hazardous, diseased, dead, and downed trees. Obstructing or damaged limbs less than four inches in diameter would be removed as necessary to maintain road and trail clearance width and height, and the tree canopy would be trimmed up to 14 feet (Photo 9). Trimming shrubs consists of cutting vegetation up to four feet from the edge of the road, path, or trail. All tree and shrub materials would be removed to an off-site location.



Photo 9: Oceano Lagoon Trail Tree Maintenance, Typical

In areas of temporary disturbance where vegetation must be removed, native trees and shrubs, with a Diameter Breast Height (DBH) of four inches or less, would be cut to ground level with hand operated power tools. If it is necessary to remove live riparian willows and cottonwoods greater than four inches in diameter, they would be replaced at a 1:1 ratio (see Table 2 below).

This work would happen along trails at Oceano Lagoon and North Beach Campground (Figure 3), along the Access Road, at Meadow Creek near the Ranger Station and CDPR Maintenance Yard (Figure 5), and along the causeway and parking lot and boardwalk at the Oso Flaco Natural Area (Figure 6).

Crews would use hand tool and hand power tools such as loppers and pole saws for cutting limbs, chain saws to cut trunks and limbs into manageable sections and for felling and cutting up large wood material, and string weed trimmers for clearing understory and maintaining clearance along the access roads and trails. Some mechanized equipment may be used from existing roadways to control understory vegetation. Equipment may include flair mower, brush box, or other non-ground disturbing attachments. Mechanized equipment would only be used in areas that have an existing roadway that provides access to treatment areas.

2.3.4 Emergent Species Control

This activity would involve the removal and management of emergent plant growth (tule/bulrush) within Meadow Creek and Carpenter Creek to prevent flow restriction of the creek channels.

In recent years extreme winter storms have caused major flooding in North Beach Campground. Seasonal flushing of Meadow Creek stream channel has been hindered by the combination of sediment build up and the growth of emergent plants (Photo 10). Thick growths of tule/bulrush within the creek and on both sides of the Flood Control Pump Station would be removed to maintain flow capacity.

Initial work would be done manually with a crew using loppers and other hand held tools to remove the vegetative tops of the emergent plant to six inches above seasonal water level and other hand tools for manual removal of plants for thinning purposes. All work would take place in the stream channel only during low or no flow conditions. Work in the creek channel would begin 300 linear feet above the Monarch Bridge and extend about 800 linear feet below the Monarch Bridge, for a total length of approximately 1,100 linear feet (5,500 square feet of work in wetlands).



Photo 10: Meadow Creek Emergent Vegetation, Typical

2.3.5 Exotic Species Control

This activity would involve the removal or management of exotic pest plants from within the riparian plant community including, but not limited to: Cape ivy (*Delairea odorata*), Boston ivy (*Hedera helix*), Italian thistle (*Carduus pycnocephalus*), sow thistle (*Sonchus sp.*), poison hemlock (*Conium maculatum*) and pampas grass (*Cortaderia selloana*). This work would happen at the Oso Flaco Natural Area, Oceano Lagoon, and Meadow Creek (Photo 11).

OHMVR Division would contract with a qualified and licensed herbicide contractor experienced in working within

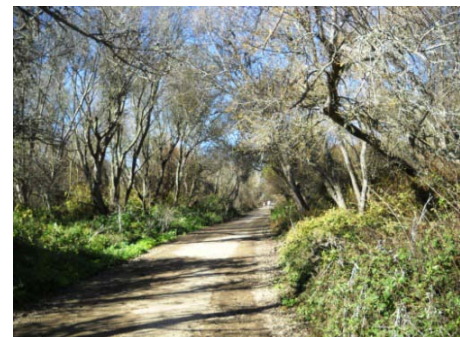


Photo 11: Exotic Species Control along Trails, Typical

a riparian plant community for the manual and chemical treatment of these exotic invasive plant species. Chemical treatment involves a contractor applying an herbicide from a backpack sprayer at each spot location. Manual treatment would also be done by OHMVR Division staff along the North Beach and Oceano Lagoon Trails, the Access Road, and the Oceano Flaco Lake causeway. Manual treatment can involve removing and bagging seed heads (such as pampas grass) and applying herbicide to the remainder of the plant or completing removing the plant using hand tools. Other exotic pest plant species may be treated as necessary.

2.3.6 Equipment to Be Used

The following equipment would be used for maintenance activities described above.

- Hand tools: shovels, rakes, loppers, hand shears, machete, hand broom
- Power tools: chain saw, and power loppers would be used for a maximum of 10 hours per project site for a total of 40 hours per year
- Back pack sprayers (chemical application by contractor or certified park personnel)
- Back hoe with possibly flair mower, brush box, and other non-ground disturbing attachments; would be used for an average of 2 hours per culvert for a total of 30 hours per year.

2.3.7 Environmental Protection Measures Incorporated Into the Project

OHMVR Division incorporates environmental protection measures into its routine maintenance operations at Oceano Dunes SVRA and Pismo State Beach. These measures are intended to minimize or avoid potential impacts on natural resources such as water, soil, vegetation, and wildlife from park management actions. The measures developed for the project listed in Table 2 would be implemented during the proposed riparian maintenance actions.

Table 2. Environmental Protection Measures Incorporated into Project
<p>Sediment Control Measures</p> <ul style="list-style-type: none"> • Non-erodible filter screens at the inlet and outflow of the culvert and filter screens or wattles around the work area of the spillway during work activities shall be placed to filter and settle any sediment disturbance of bed sediment or sediment from accumulated around the object being removed. • Heavy equipment shall not be placed in the water body during the operation of any culvert maintenance. Back-hoe work shall be restricted to the roadside or upper bank and only the bucket will placed in the water body. • CDPR staff shall limit the amount of disturbance to vegetation, banks and, stream and lake sedimentation. Work and entrance into the work area shall be restricted to established areas. • CDPR staff shall limit project activities in the channel and along stream banks to the drier period of the year from May 1 to December 1 or when the stream is not actively flowing, or at its lowest flow, and when there is no measurable rain forecasted within 48 hours of work activities.
<p>Birds:</p> <ul style="list-style-type: none"> • CDPR shall not schedule any vegetation removal within any riparian sites from March 1st to August 15th, the recognized breeding, nesting and fledging season for most bird species. • If vegetation has to be removed within these dates, a qualified biologist shall conduct surveys for nesting birds prior to work commencing. • If work is unavoidable during the recognized bird breeding, nesting and fledgling season; a qualified staff biologist shall survey the area for nests and flag the nest. No work shall be performed within 300 feet of a non-raptor bird nest or within 500 feet of a raptor nest.

Table 2. Environmental Protection Measures Incorporated into Project
<p>Exotic Species Control:</p> <ul style="list-style-type: none"> • All chemical treatment for exotic species control shall be performed by a Licensed Qualified Applicator with knowledge of native riparian plant species. • All herbicide applications shall be applied consistently in accordance to the directions found on the product label and the Pest Control Advisor recommendation. • Any herbicide that is sprayed within 100 feet of surface water or of riparian vegetation shall be approved for aquatic use (Rodeo or other approved herbicide). • To prevent drift, no spraying shall occur when wind conditions are over 5 miles per hour.
<p>General Protection of Riparian and Aquatic Habitats:</p> <ul style="list-style-type: none"> • A qualified staff biologist shall be present to monitor all routine maintenance activities. • A Spill Plan shall be in place for prompt and effective response to an accidental spill. All Park staff shall be informed of the importance of preventing spills and appropriate measures to take when a spill happens. • All refueling, maintenance, and staging of equipment and vehicle shall occur at least 60 feet from riparian habitat or water bodies in a location where a spill would not drain directly toward aquatic habitat. • All vehicles used near riparian areas shall be clean and free of leaks. • To minimize further disturbance to the work area, CDPR shall limit crew size; number of vehicles and equipment; and access points.
<p>Basic Construction Management Practices:</p> <ul style="list-style-type: none"> • Reduce the amount of the disturbed area where possible. • Limit vehicle speeds on unpaved roads/trails to no more than 15 miles per hour. • Cover all haul trucks transporting soil, sand, or other debris off site. • Limit diesel equipment idling to no more than five minutes and post a sign at the construction staging area reminding equipment operators of this five-minute idling limit. • Require a certified mechanic to check and determine that all equipment is running in proper condition prior to construction operations. • Properly maintain and tune all construction equipment in accordance with manufacturer's specifications.
<p>Tree Replacement:</p> <ul style="list-style-type: none"> • Necessary removal of live riparian willows and cottonwood greater than four inches shall be replaced at a 1:1 ratio with either CDPR nursery stock or tree stakes and planted at a suitable location within the park. Multi-stem trees shall be treated as a single tree for mitigation purposes. If necessary, CDPR may use higher replacement ratios to meet local permitting requirements.
<p>Cultural Resources:</p> <ul style="list-style-type: none"> • In the event unanticipated resources are discovered within the project treatment sites all ground disturbing activities would stop and a qualified state archaeologist would be contacted to evaluate the find. In the event the find is determined to be a historical or unique archaeological resource, avoidance measures or appropriate mitigations will be made by the archaeologist. Work could continue in other parts of the project area while historical or unique archaeological mitigations take place (14 CCR 15064.5). • In the event that human remains are accidentally discovered, the project must come to a complete stop and no further excavation or disturbance of the area or vicinity will occur. The county coroner is to be called immediately to determine if the remains are of Native American ancestry. If the coroner confirms that the remains are Native American, within 24 hours of the discovery the coroner is to contact the Native American Heritage Commission. The

Table 2. Environmental Protection Measures Incorporated into Project

<p>Commission will identify the person(s) believed to be the Most Likely Descendent (MLD), and the MLD will decide, along with the property owner, on appropriate treatment or disposal of the human remains and associated grave goods as provided in PRC § 5097.98. If the Native American Heritage Commission cannot identify the MLD, the MLD fails to make a recommendation, or the property owner rejects the MLD's recommendations, the property owner can rebury the remains and associated burial goods in an area not subject to ground disturbance (14 CCR 15064.5).</p>

Source: Oceano Dunes SVRA

2.3.8 Work Activity Times

Routine maintenance activities would occur seasonally as needed on an annual basis. All work within the stream channels would occur during the driest part of the year between May 1 and December 1. Tree trimming activities would occur between August 15 and March 1 outside of the spring and summer nesting season. All elements of the project shall be limited to the hours between 7:00 a.m. and 9:00 p.m., Monday through Friday, and between 8:00 a.m. and 5:00 p.m. Saturday or Sunday per Title 23.06.042(d) of the San Luis Obispo County Coastal Land Use Ordinance.

Chapter 3 ENVIRONMENTAL CHECKLIST AND RESPONSES

PROJECT INFORMATION

1. **Project Title:** Routine Riparian Maintenance
2. **Lead Agency Name & Address:** CDPR, OHMVR Division
1725 23rd Street, Suite 200
Sacramento, CA 95816
3. **Contact Person & Phone Number:** Ronnie Glick
Oceano Dunes District Office
(805) 773-7180
4. **Project Location:** Pismo State Beach and Oceano Dunes SVRA, Oceano, CA
5. **Project Sponsor Name & Address:** Same as Lead Agency
6. **General Plan Designation:** Park
7. **Zoning:** Recreation
8. **Description of Project:** See Chapter 2 Project Description
9. **Surrounding Land Uses & Setting:** See Chapter 2 (Section 2.1) and Chapter 3 (Section 3.9)
10. **Approval Required from Other Public Agencies:** See Chapter 1 (Section 1.4)

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

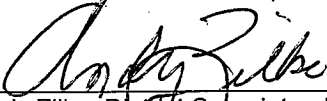
The environmental factors checked below would be potentially affected by this project involving at least one impact that is a "Potentially Significant Impact" if mitigation measures are not implemented as indicated by the checklist on the following pages. Note measures contained in this chapter can avoid or minimize all impacts to less than significant levels.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture/Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities/Service Systems | |
| <input checked="" type="checkbox"/> Mandatory Findings of Significance | <input type="checkbox"/> None | |

DETERMINATION:

On the basis of this initial evaluation:

- I find that the proposed project could not have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared. ☐
- I find that, although the original scope of the proposed project could have had a significant effect on the environment, there will not be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☒
- I find that the proposed project may have a significant effect on the environment and an **ENVIRONMENTAL IMPACT REPORT** or its functional equivalent will be prepared. ☐
- I find that the proposed project may have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An environmental impact report is required, but it must analyze only the impacts not sufficiently addressed in previous documents. ☐
- I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required. ☐


 Andy Zilke, District Superintendent, Oceano Dunes District

Date 10/3/12

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers, except "No Impact", that are adequately supported by the information sources cited. A "No Impact" answer is adequately supported if the referenced information sources show that the impact does not apply to the project being evaluated (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on general or project-specific factors (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must consider the whole of the project-related effects, both direct and indirect, including off-site, cumulative, construction, and operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether that impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate when there is sufficient evidence that a substantial or potentially substantial adverse change may occur in any of the physical conditions within the area affected by the project that cannot be mitigated below a level of significance. If there are one or more "Potentially Significant Impact" entries, an Environmental Impact Report (EIR) is required.
4. A "Mitigated Negative Declaration" (Negative Declaration: Less Than Significant with Mitigation Incorporated) applies where the incorporation of mitigation measures, prior to declaration of project approval, has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact with Mitigation." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR (including a General Plan) or Negative Declaration (CEQA Guidelines § 15063(c)(3)(D)). References to an earlier analysis should:
 - a) Identify the earlier analysis and state where it is available for review.
 - b) Indicate which effects from the environmental checklist were adequately analyzed in the earlier document, pursuant to applicable legal standards, and whether these effects were adequately addressed by mitigation measures included in that analysis.
 - c) Describe the mitigation measures in this document that were incorporated or refined from the earlier document and indicate to what extent they address site-specific conditions for this project.
6. Lead agencies are encouraged to incorporate references to information sources for potential impacts into the checklist or appendix (e.g., general plans, zoning ordinances, biological assessments). Reference to a previously prepared or outside document should include an indication of the page or pages where the statement is substantiated.
7. A source list should be appended to this document. Sources used or individuals contacted should be listed in the source list and cited in the discussion.
8. Explanation(s) of each issue should identify:
 - a) the criteria or threshold, if any, used to evaluate the significance of the impact addressed by each question and
 - b) the mitigation measures, if any, prescribed to reduce the impact below the level of significance.

3.1 AESTHETICS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.1.1 Environmental Setting

The project riparian maintenance sites are located within the San Luis Obispo County Coastal Zone. Visibility of the project sites is highly localized to views from within Pismo State Beach and Oceano Dunes SVRA and views from the adjacent stretch of State Route 1.

State Route 1 in the project area is eligible for State scenic highway status. However, none of the highway segments that are located in the project area (State Route 1 and U.S. 101) are officially designated as State Scenic Highways (http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm). State Route 1 becomes a State Scenic Highway north of the city of San Luis Obispo, about 14 miles north of the project site.

3.1.2 Discussion

Would the proposed project:

a. Have a substantial adverse effect on a scenic vista?

No Impact. None of the routine maintenance sites are visible from the officially designated State Scenic Highway segment of State Route 1, which has scenic vistas.

According to the San Luis Obispo County Local Coastal Program (LCP) (San Luis Obispo 2007), tree removal within public view corridors (areas visible from collector or arterial roads) shall be minimized in accordance with the Visual and Scenic Resources Policy 5. Indiscriminate or unnecessary tree removal in coastal areas is also regulated by LCP Section 23.05.060 pursuant to Section 30251 of the Coastal Act, which requires protection of scenic and visual qualities of coastal areas. The routine riparian maintenance work would result in vegetation removal from wetlands and riparian areas; however, the vegetation removed would target downed trees and limbs that are obstructing water movement and would not result in unnecessary tree removal. Proposed tree and shrub trimming and removal of emergent or exotic vegetation would not substantially alter the landscape and would not be visible from collector or arterial roads that could have scenic coastal views (see Table 1). Trimmed

vegetation areas would be visible from adjacent public trails and vehicle access areas. Tree and brush trimming would not substantially alter scenic qualities of the landscape from these areas. Culvert and spillway maintenance would not alter landscape aesthetics.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The project site does not contain scenic resources such as trees, rock outcroppings, or historic buildings within a state scenic highway. The nearest segment of officially designated State scenic highway is on State Route 1, north of San Luis Obispo, which is not visible from the project area as it is 14 miles north of the project area.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. The routine riparian maintenance work is intended to remove sediment, debris, and emergent vegetation that is impeding water movement and trim tree and shrub growth. The result of the work would be an improvement in the visual character of the sites treated. The public would be able to see more open water in waterways where vegetation is removed, and the wetlands and waterways would appear more natural. The work proposed would not significantly alter the existing visual character in the sites treated.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. The project would not create a new source of substantial light or glare affecting day or nighttime views in the area as no significant exterior lighting is proposed. All work would take place during daytime hours.

3.2 AGRICULTURE AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project*:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland.

3.2.1 Environmental Setting

The project areas are located within Oceano Dunes SVRA and Pismo State Beach. No farmland, forest, or timberland exists in the project area.

3.2.2 Discussion

Would the proposed project:

- a. **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**
- b. **Conflict with existing zoning for agricultural use, or a Williamson Act contract?**
- c. **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**
- d. **Result in the loss of forest land or conversion of forest land to non-forest use?**

- e. **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

No Impact. (Responses a-e) The proposed riparian maintenance sites are located within an existing State Beach and SVRA (Figures 2 through 6). No farmland, forest, or timber exists within these designated areas. The proposed project would not remove any acreage from agricultural production. The project would have no impact on prime farmland or other agricultural resources in the project vicinity. The project does not affect any land that has been zoned for agricultural use or is currently in Williamson Act contracts. Therefore, the proposed project would not conflict with zoning for forest land or timber land, and would not result in the loss of forest land or the conversion forest land to a non-forest use. The project would not involve other changes in the existing environment that could result in the conversion of farmland to non-agricultural use.

3.3 AIR QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.3.1 Regulatory and Environmental Setting

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality. Federal, state, and local governments control air quality through the implementation of laws, ordinances, regulations, and standards.

The proposed project is located on the San Luis Obispo County coast, near the community of Oceano, within the South Central Coast Air Basin (SCCAB), an area of non-attainment for state ozone, fine particulate matter (PM_{2.5}), and suspended particulate matter (PM₁₀) air quality standards. The San Luis Obispo County Air Pollution Control District (APCD) is responsible for maintaining air quality and regulating emissions of air pollutants within San Luis Obispo County. The APCD carries out this responsibility by preparing, adopting, and implementing plans, regulations, and rules that are designed to achieve attainment of state and national air quality standards. In 2001, the APCD adopted its *2001 Clean Air Plan*. This plan updates the APCD's 1998 Clean Air Plan, addresses ozone and particulate matter emissions, and identifies the control measures necessary to attain air quality standards. The APCD currently has nine regulations containing approximately 100 rules that control and limit emissions from sources of air pollutants. This includes Rule 1001, Coastal Dunes Dust Control Requirements, which requires the OHMVR Division, as operator of the Oceano Dunes SVRA, to reduce particulate matter emissions from the area under its control. This rule, however, does not directly apply to the proposed riparian maintenance activities because these activities would not take place on or within open sand sheets that are the primary source of the dust regulated by Rule 1001. Pollution from mobile sources, such as cars, trucks, trains and marine vessels, falls outside of

the APCD's jurisdiction and is regulated by state and federal agencies that establish the air pollution emission standards for these vehicles and the fuel they run on.

In April 2012, the APCD adopted its *CEQA Air Quality Handbook*, which is designed to assist lead agencies in assessing the potential air quality impacts of a project. This guide describes when an air quality analysis is necessary for a project, the type of analysis that should be performed, the significance thresholds to use for project impacts, and mitigation measures that may be implemented to reduce impacts to less than significance.

3.3.2 Discussion

Would the proposed project:

a. Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The proposed riparian maintenance activities would not conflict with or obstruct implementation of the APCD's *2001 Clean Air Plan*. The 2001 Clean Air Plan includes ozone pre-cursor pollutant emissions of reactive organic gases and oxides of nitrogen from mobile and area wide emission sources such as the project's backhoes and chainsaws in its reference (1991) and forecasted (2015) emissions inventories and plans for achieving attainment of air quality standards. The project is consistent with the socio-economic and emission-generating characteristics and assumptions used by the APCD to forecast emissions as well as the land use and transportation control measures and strategies outlined in the *2001 Clean Air Plan*. Per the APCD's *CEQA Air Quality Handbook*, a project that is consistent with 2001 Clean Air Plan land use and transportation control measures does not conflict with or obstruct the implementation of the APCD's *2001 Clean Air Plan*.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact. The proposed riparian maintenance activities would generate intermittent emissions from heavy-duty diesel-powered equipment (e.g., a backhoe) and gasoline-powered landscaping equipment (e.g., chainsaws). The OHMVR Division anticipates riparian maintenance activities could require up to 30 hours of backhoe operations and 40 hours of landscaping equipment operations per year. Access to riparian maintenance locations would occur primarily via paved roads (e.g., State Route 1, Pier Avenue, Grand Avenue, Oso Flaco Road). The proposed culvert, spillway, and riparian tree and shrub maintenance activities and emergent and exotic species control activities would occur in vegetated riparian corridors that have a low potential to generate dust; all mechanized equipment would be used in areas that have existing roads or trails and no new ground disturbance is anticipated to result from the project. Table 3 presents the project's short-term construction emissions, as estimated using the California Emissions Estimator Model (CalEEMod), Version 2011.1.1.

As Table 3 shows, the riparian maintenance project would not exceed APCD CEQA significance thresholds and would therefore not result in a significant air quality impact. The OHMVR Division would implement the basic construction management practices as identified in Table 2 (Section 2.3.7) to further reduce the magnitude of potential construction emissions.

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. As discussed in a) and b) above, the project would not result in construction or operational emissions that exceed established thresholds of significance. In developing their CEQA significance thresholds, air districts typically identify the emission levels at which a project's individual emissions would be cumulatively considerable. Since the project

would not individually exceed any significance thresholds the project would result in less-than-significant cumulative air quality impacts.

Table 3. Project Emissions				
Scenario	Pollutant Emissions (lbs per day)			
	ROG and NOx	DPM^A	PM₁₀ Dust	CO
Daily Average ^B	8.79	0.3	2.73	4.24
APCD Significance Criteria	25	1.25	25	550
Scenario	Pollutant Emissions (tons per year)			
	ROG and NOx	DPM	PM₁₀ Dust	CO
Total Project	0.29	0.01	0.09	0.14
APCD Significance Criteria	25	--	25	--

Source: TRA Environmental Sciences, Inc.

A. Diesel particulate matter (DPM) estimate based on PM_{2.5} exhaust emissions

B. Worst-case, quarterly daily average, i.e., annual emissions divided by 66 construction working days.

d. Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. A sensitive receptor is generically defined as a location where there is reasonable expectation that human populations, especially children, seniors, and sick persons, would experience continuous exposure to air pollutants. These receptors typically include residences, hospitals, and schools. The closest sensitive receptors to the project areas would be visitors using the parks and staying at the North Beach Campground. Other adjacent land uses include a hotel, located across the street from the Oceano Campground entrance on Pier Avenue, and a mobile home and other residences located near Pier Avenue. Project activities could emit toxic air contaminants associated with diesel and gasoline fuel combustion; however, these emissions would be less than significant. Project construction would occur intermittently throughout the year, and the OHMVR Division would limit diesel idling to no more than five minutes (see Table 2) during work periods. As shown in Table 3, the project could result in up to 0.3 pounds per day of diesel particulate matter (DPM) emissions, less than the APCD's DPM significance threshold of 1.25 pounds per day. The project, therefore, would not continuously expose any potential receptor to substantial pollutant concentrations.

e. Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. Potential odors generated during intermittent project activities, including odors associated with fuel combustion, would not affect a substantial number of people and would not result in a significant impact.

3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.4.1 Regulatory Setting

In addition to CEQA, other federal, state, and regional laws apply to the biological resources identified in this report. Each of these laws is identified and discussed below.

Federal Endangered Species Act (FESA)

FESA establishes a broad public and federal interest in identifying, protecting, and providing for the recovery of threatened or endangered species. The Secretary of the Interior and the Secretary of Commerce are designated in FESA as responsible for identifying endangered and threatened species and their critical habitat, carrying out programs for the conservation of these species, and rendering opinions regarding the impact of proposed federal actions on listed species. The USFWS and the National Marine Fisheries Service (NMFS) are charged with implementing and enforcing the FESA. USFWS has authority over terrestrial and continental

aquatic species, and NMFS has authority over species that spend all or part of their life cycle at sea, such as salmonids.

Section 9 of FESA prohibits the unlawful “take” of any listed fish or wildlife species. Take, as defined by FESA, means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such action.” The USFWS’s regulations define harm to mean “an act which actually kills or injures wildlife.” Such an act may include “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR § 17.3). Take can be permitted under FESA under sections 7 and 10. Section 7 provides a process for take permits for federal projects or projects subject to a federal permit, and Section 10 provides a process for incidental take permits for projects without a federal nexus. FESA does not extend the take prohibition to federally listed plants on non-federal land, other than prohibiting the removal, damage, or destruction of such species in violation of state law.

The Migratory Bird Treaty Act of 1918 (MBTA)

Under the MBTA, it is unlawful to “pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not.” In short, under the MBTA it is illegal to disturb a nest that is in active use, since this could result in killing a bird or destroying an egg. The USFWS oversees implementation of the MBTA.

The Clean Water Act of 1972 (Section 404)

The United States does not have a federal, comprehensive law protecting wetlands. However, through the regulation of activities in “waters of the United States,” the Clean Water Act of 1972 is the main federal law used to protect wetlands. Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into “waters of the United States,” which includes traditional navigable waters, interstate waters, certain tributaries of any of these waters, and wetlands that meet these criteria or that are adjacent to any of these waters. In 1987, the USACE published a manual for the delineation wetlands, those that are regulated by Section 404, and generally defined wetlands as requiring the following three characteristics: hydrology, hydric soils, and hydrophytes (plants adapted to living in saturated soils).

The USACE also regulates activities in waters of the United States under the federal Rivers and Harbors Act. Section 10 of the Rivers and Harbors Act requires permits for any work or structures in navigable waters of the United States, including wetlands within or adjacent to these waters. Both dredging and filling are regulated activities under the Act. Navigable waters are defined as those waters that are subject to the ebb and flow of the tide, or that are presently have been, or may be used for transport of interstate or foreign commerce.

In response to a request from C DPR, Oceano Dunes District, the USACE reviewed the proposed project. Several of the project work locations occur in tributaries to the Pacific Ocean, a navigable water of the U.S, and therefore the project contains waters of the U.S. and is subject to USACE jurisdiction. However, the USACE determined that the project maintenance activities would not involve a discharge of dredged or fill material, and would not be regulated under Section 404 of the Clean Water Act. Furthermore, the project areas are not subject to the ebb and flow of the tide, and therefore, they would not be regulated under Section 10 of the Rivers and Harbors Act (U.S. Department of Army 2012).

USFWS Wetland Definition

In 1979, the USFWS adopted the wetland classification developed by Cowardin et al (1979). In this classification system, wetlands are defined as: lands that are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is

covered by shallow water, and that have one or more of the following attributes: at least periodically, the land supports predominantly hydrophytes; the substrate is predominantly undrained hydric soil; and, the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.

This USFWS wetland definition differs slightly from the USACE definition. The USACE definition requires all three wetlands attributes (hydrology, hydrophytes, and hydric soils) to be present, where the USFWS definition does not.

California Endangered Species Act (CESA)

Provisions of CESA protect state-listed threatened and endangered species. The Fish and Game Commission is charged with establishing a list of endangered and threatened species. CDFG regulates activities that may result in “take” of individuals (i.e., “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California Fish and Game Code, but CDFG has interpreted “take” to include the killing of a member of a species which is the proximate result of habitat modification.

California Fish and Game Code Section 1602

Section 1602 of the California Fish and Game Code requires an entity to notify CDFG of any proposed activity that may substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing pavement where it may pass into any stream, river, or lake. CDFG uses the USFWS definition of wetlands when regulating these activities. The project would require Section 1602 authorization from CDFG.

California Fish and Game Code Section 3503 and 3503.5

Pursuant to Fish and Game Code section 3503, it is unlawful to “take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” Section 3503.5 provides similar protection specifically to raptors and their nests. CDFG typically recommends surveys for nesting birds that could potentially be directly (actual removal of trees/vegetation) or indirectly (noise disturbance) impacted by project-related activities. Disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the CDFG.

California Fish and Game Code Section 4150

Pursuant to Fish and Game Code section 4150, “[a]ll mammals occurring naturally in California which are not game mammals, fully protected mammals, or fur-bearing mammals, are nongame mammals. Nongame mammals or parts thereof may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission.”

Bats are the only special-status, non-game mammal species protected under this law that have potential to occur on the project sites. Direct impacts to bats generally occur through loss of roosting habitat. There are three general categories of roosts: cavities, crevices, and foliage (Johnston et al. 2004). Bats have day roosts, night roosts, maternity roosts, and hibernation or torpor roosts. The most likely roosting sites in an urban area are bridges, conifer snags, and live, mature oaks, sycamores, and cottonwoods (Johnston et al. 2004). Generally speaking, it is the take of maternal or hibernation roost sites that is of most concern to regulatory agencies.

3.4.2 Environmental Setting

Vegetation Communities

The vegetation communities present at each maintenance site location within Pismo State Beach and the Oceano Dune SVRA are presented below.

The Pismo Lake Spillway supports a closed canopy of Central Coast Arroyo Willow Riparian Forest dominated by arroyo willows (*Salix lasiolepis*). The understory ranges from bare soils and leaf litter to areas composed mostly of herbaceous plants typical of wetland and seasonally moist areas along the central coast of California, including willow dock, brown-headed rush, spreading rush (*Juncus patens*), birdfoot trefoil (*Lotus corniculatus*), California blackberry (*Rubus vitifolius*), and poison oak. Central Coast Arroyo Willow Riparian Forest is a wetland plant community identified as a special-status natural community by CDFG. The willows have overgrown the spillway, threatening the ability of water to move downstream. There are also clumps of tules within the spillway channel and accumulated debris in the spillway above the railroad culvert (Photo 8, Section 2.3.2).

Meadow Creek from its confluence with the Pismo Spillway to its terminus at the Oceano Lagoon supports the Central Coast Arroyo Willow Riparian Forest. Near the Pismo Spillway, mature trees found along the banks of the creek include non-native or non-local species such as eucalyptus (*Eucalyptus* sp.), Monterey cypress (*Cupressus macrocarpa*), and Monterey pine (*Pinus radiata*). These trees become a dense grove immediately south of the creek at the popular Monarch Grove area, which supports roosting habitat for Monarch butterflies each winter. Meadow Creek below Monarch Grove also supports Arroyo Willow Riparian Forest along its banks, but the bed has become choked by cattails (*Typha latifolia*) and sedges (*Cyperus* spp.; Photo 10, Section 2.3.4). South of Monarch Grove, Meadow Creek runs along the eastern edge of Pismo State Beach Golf Course and Sheridan Road. More willow riparian habitat grows along the banks of the creek along this section. It then goes under Le Sage Road and Grand Avenue where it feeds a smaller riparian/willow complex located east of an intact section of Central Coastal Dune Scrub, which supports yarrow (*Achillea millefolium*), mock heather (*Ericameria ericoides*), California aster (*Lessingia filaginifolia*), and dune lupine (*Lupinus chamissonis*). The arroyo willow lined Meadow Creek continues south past the CDPR Ranger Station and Maintenance Yard where it terminates in Oceano Lagoon.

Carpenter Creek junctions off of Meadow Creek just below the North Beach - Monarch Grove Bridge. This creek traverses through open dune land (Photo 2, Section 2.1) known as the northern extent of the Guadalupe-Nipomo Dunes system. Although this portion of the dune system is not contiguous with the larger, intact dune system to the south, it has the plant and animal communities that are typical of the Guadalupe-Nipomo Dunes and is therefore considered part of the larger dune system.

Carpenter Creek is lined by the Alkali Heath Marsh plant community, which is composed of alkali heath (*Frankenia salina*), fleshy jaumea (*Jaumea carnosa*), and salt grass (*Distichlis spicata*). The non-native hottentot fig (*Carpobrotus edulis*) occurs along the edges of the creek behind the Alkali Heath Marsh community. At its confluence with Meadow Creek, Carpenter Creek supports willow riparian habitat as well as tules and sedges within the creek. Culverts located between the campground and creek would be cleaned out in this location.

Oceano Lagoon is more aptly described as a man-made, freshwater lake (Photo 5, Section 2.1). Historically, this lagoon area was comprised of likely brackish marshlands with freshwater input from Meadow Creek and occasional seawater input from the Pacific Ocean in the form of dune overwash during high tide, storm, and big wave events. Today, Oceano Lagoon continues to receive freshwater from Meadow Creek and captures runoff from neighboring development.

The vegetation surrounding Oceano Lagoon and its trails is typical of Arroyo Willow Riparian Forest, which is dominated by arroyo willow. Understory species include poison oak (*Rhus diversiloba*), California blackberry, toyon (*Heteromeles arbutifolia*), and California coffeeberry (*Rhamnus californica*). Park staff has planted many coast live oaks (*Quercus agrifolia*) and other trees along the trails.

The Oso Flaco Natural Area, an approximately 800-acre area in the southern portion of Oceano Dunes SVRA, is designated for hiking, fishing, nature study, and other non-motorized uses (Photo 4, Section 2.1). Vegetation along the causeway consists of a mix of willows, cottonwood trees (*Populus fremontii*), twinberry (*Lonicera involucrata*), poison oak, and California blackberry. Past the boardwalk the causeway trail reaches the sand dunes where vegetation along the trail is dominated by central coast dune scrub, which supports species such as yarrow (*Achillea millefolium*), fiddleneck (*Amsinckia spectabilis*), beach bur (*Ambrosia chamissonis*), Pomona milk-vetch (*Astragalus pomonensis*), mock heather (*Ericameria ericoides*), California aster (*Lessingia filaginifolia*), and dune lupine (*Lupinus chamissonis*).

Special-Status Species

Special-status species are those plants and animals that are legally protected or otherwise recognized as vulnerable to habitat loss or population decline by federal, state, or local resource conservation agencies and organizations. In this analysis, special-status species include:

- Species that are state and/or federally listed threatened or endangered
- Species considered as candidates for listing as threatened or endangered
- CDFG Species of Special Concern
- Fully protected species per California Fish and Game Code
- Plants considered by the California Native Plant Society (CNPS) and CDFG to be rare, threatened, or endangered (California rare plant ranked [CRPR]; e.g., CRPR 1B)

A list of those special-status species that have potential to occur in the project area is presented in Appendix A. Due to the fact that the proposed project activities are restricted to wetland and riparian habitats, most of the species have no or low potential to occur on the project site and are not further addressed in this analysis. Special-status species with moderate to high potential for occurrence on the project sites are described below.

Special-Status Plants

Three federal and state listed plant species are known to occur presently or historically on or adjacent to the project sites. These plants are shown in Figure 7 and described below.

Marsh sandwort (*Arenaria paludicola*). This federal and state endangered species is a perennial herb in the pink family (*Caryophyllaceae*). It has rooting, trailing stems and small white flowers which bloom from May through August. It can also reproduce asexually by producing adventitious roots on the trailing stems that come in contact with suitable conditions. Historically, this species occurred in swamps, marshes, and other wet areas in widely disjunct localities in California and Washington. It occurred in four counties in the coastal region of Washington, as well as in San Francisco, Santa Cruz, San Luis Obispo, and San Bernardino counties in California (USFWS 1998).

Since marsh sandwort was federally listed, a natural population was rediscovered at Oso Flaco Lake in 1998 (USFWS 1998). This site is now the only known extant, wild population. This population has been in decline with 85 individuals reported in 1998 and only 25 individuals reported in 2005 (USFWS 2008). There also was a recorded decline in habitat quantity and quality at this location since the population was discovered in 1998. The vegetation has become thicker, denser, and more overgrown, consistent with biostimulation. Agricultural operations

upstream from the lake have indirectly caused a decline in the in quality of the marsh and swamp habitat through increases in nutrients and biostimulation (USFWS 2008).

Gambel's watercress (*Nasturtium [Rorippa] gambelii*). This federal endangered and state threatened species is an herbaceous perennial in the mustard family (*Brassicaceae*). This species characteristically roots from the stem, which bears scattered compound leaves and dense clusters of white flowers. Gambel's watercress is found in freshwater or brackish marsh habitats at the margins of lakes and along slow-flowing streams. It grows in or just above the water level and requires a permanent source of water. Historically, Gambel's watercress occurred in interior wetland areas of San Diego, San Bernardino, and Los Angeles counties, as well as coastal wetland areas of San Luis Obispo and Santa Barbara counties. A population from Mexico is thought to be extirpated (USFWS 1998).

At the time of federal listing, there were three known populations of Gambel's watercress, all in San Luis Obispo County (USFWS 1994). Each of these three populations are considered extirpated (USFWS 2011). Hybridization and subsequent genetic introgression with the closely related *Nasturtium officinale* (Mazer et al. 2000; Prince 2008a, 2008b, all as cited in USFWS 2009), habitat loss and degradation, encroachment of non-native eucalyptus trees, and drilling of water wells in the immediate watershed are serious threats to Gambel's watercress at the locations of three extirpated populations in San Luis Obispo (USFWS 2011; CNDDDB 2011). The USFWS deems the Oceano Dunes SVRA population at Oso Flaco Lake to be extirpated (USFWS 2011), as all individuals appear to show introgression with *N. officinale* (CNDDDB 2011). A recent survey in 2010 (Mark Elvin, USFWS) within Oso Flaco Lake and Oso Flaco Creek did not show the presence of genetically pure Gambel's watercress (*Nasturtium gambelii*) at Oso Flaco Lake but identified hybrids between Gambel's and common watercress (CDPR 2011).

La Graciosa thistle (*Cirsium loncholepis*). This federal endangered and state threatened species is a bushy biennial or short-lived, perennial herb with large, smooth to slightly hairy leaves and clustered heads of white flowers. This member of the sunflower family (*Asteraceae*) is known from coastal San Luis Obispo and Santa Barbara counties from Pismo Beach south to Los Alamos. Its habitat is freshwater and brackish marshes, especially among dunes, and river bottom lands with high subsurface moisture levels. Seven sites are known for this species, with the largest, consisting of several thousand plants, at the mouth of the Santa Maria River. La Graciosa thistle has historically been reported from two localities within the SVRA: from the north shore of Oso Flaco Lake and from a locality 0.55 miles west-southwest of Jacks Lake (USFWS 1998). The species was reported to be extant at both localities in 1990. John Chestnut did not observe any plants at either locality in 1998, and CDPR did not observe the species at either locality during surveys conducted for the habitat monitoring system (CDPR 2011b).

Special-Status Wildlife

There are four federal and state listed wildlife species with the potential to occur on or adjacent to the project sites (Figure 8). These species are described below.

California red-legged frog (*Rana draytonii*). This is a federal threatened and California species of special concern. The California red-legged frog (CRLF) occurs in permanent and semi-permanent water bodies in the Coast Ranges of California from Sonoma County to northern Baja California and east into the central Sierra Nevada. CRLF has been eliminated from the majority of the southern Sierra and the Central Valley. CRLF are found in marshes, streams, lakes, reservoirs, ponds, and other, usually permanent, sources of water. They prefer habitats with steep-cut and over-hanging banks and dense vegetation, such as willows and rushes. Intermittent streams and natural and artificial ponds also provide suitable habitat. CRLF can disperse long distances (i.e., over one mile) during the non-breeding season.

CRLF are currently known to occur in Oso Flaco Creek upstream of the Oceano Dunes SVRA boundary and in Arroyo Grande Creek at Pismo State Beach (Rischbieter 2012c). Additionally, there are several California Natural Diversity Database (CNDDDB 2011) occurrences for lower Arroyo Grande Creek above the Pismo State Beach boundary. Meadow and Carpenter Creeks could potentially support small populations of CRLF; however, surveys conducted at these creeks in 2010 and 2011 did not find the species (Christopher 2010, Glick 2011). These creeks are generally considered low quality habitat due to presence of bullfrogs and mosquito fish, as well as thick masses of emergent vegetation, all of which preclude tadpole survival. These creeks require removal of the emergent vegetation as well as an ongoing management program to remove exotic pests that prey on frogs.

Habitat conditions for the known occurrences of CRLF in the project area vary in terms of water quality and the known presence of non-native predators. For example, three known CRLF predators, largemouth bass (*Micropterus salmoides*), crayfish (*Procambarus clarkii*), and a snapping turtle (*Chelydra serpentina*), have been found in Oso Flaco Lake (CDPR 2001). Poor water quality in Oso Flaco Lake, which receives agricultural discharge, may affect CRLF. Movement of sand into Oso Flaco Lake may also contribute to a loss of open water, although vehicle restrictions implemented since establishment of Oceano Dunes SVRA have reduced much of the direct impact at the lake itself (CDPR 2001).

Southwestern pond turtle (*Actinemys marmorata*). The southwestern pond turtle (WPT), a state species of special concern, ranges in size from 3.5 to 7 inches and is the only freshwater turtle native to California. It occurs in ponds and small lakes with abundant vegetation. It is also found in marshes, slow-moving streams, reservoirs, and occasionally brackish water. WPT feeds on aquatic plants, such as pond lilies, beetles, aquatic invertebrates, fishes, frogs, and carrion. It requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks, as well as underwater retreats to hide from predators and humans. Females deposit their eggs in nests in sandy banks or in the case of foothill streams, in upland areas away from the stream. Nests have been observed in many soil types, from sandy to very hard, and have been found up to 100 meters (325 feet) from the water. Certain fish species, bullfrogs, garter snakes, wading birds and some mammals prey on hatchlings and juveniles.

WPT were observed at Pismo Lake during surveys conducted for the Natural Resources Inventory in 2010 (CSLRCD 2010). The 2004-2010 Habitat Monitoring Report for Oceano Dunes SVRA documented WPT sightings at Oso Flaco Lake (CDPR 2011b). WPT is assumed to present in all riparian work areas (CDPR 2011a).

California least tern (*Sterna antillarum browni*). This federal and state endangered species is a colonial nesting seabird that historically nested along the Pacific Coast from Baja California to Monterey Bay, California (USFWS 2006, Grinnell 1928). Loss of California least tern (CLT) habitat to development and recreation along with disturbance of nesting and feeding grounds has resulted in substantial declines in this subspecies following World War II (Atwood and Minsky 1983). From 1973 to 1975, the California breeding population was estimated at around 600 pairs (Bender 1974a, 1974b, Massey 1975). The subspecies *Sterna antillarum browni* has been designated as endangered under both CESA and FESA since 1976. The USFWS 5-year review, completed in September 2006, concluded with a recommendation that the species be downlisted to threatened (USFWS 2006).

In mid to late April, CLT return to nesting grounds along the coast of California and Baja, Mexico. The breeding season lasts about five months, after which the birds migrate to wintering sites on the coasts of Central and South America (Sibley 2000). CLT observed at Oceano Dunes SVRA typically nest among the large open expanses of the beach and dunes that are completely or nearly completely devoid of vegetation. Nests are normally located where terrestrial predators can be detected over a large area. This allows adults time to leave their

nest or young chicks and mob the intruder. CLT feed on fish caught by diving into the surface waters of lakes, rivers, and oceans.

CLT forage at Oso Flaco Lake, Pismo Lake, and nearby Dune Lakes. Foraging occurs mostly in mid-late July through mid August; however, they may forage there any time of the year when present at Oceano Dunes SVRA. CLT begin to arrive at Oceano Dunes SVRA in mid-May and depart mid-August to beginning of September. CDPR conducts surveys of CLT at Oso Flaco Lake, primarily once juveniles have fledged, from July 28 to August 20, so the observations are limited to this time period.

Tidewater Goby (*Eucyclogobius newberryi*). This federal endangered fish is a small, elongate fish rarely exceeding two inches. Tidewater goby (TWG) are endemic to coastal, brackish-water habitats of California. Male TWG are nearly transparent, with a mottled brownish upper surface, and tend to remain near their burrows. Female TWG develop darker colors, often black, on the body and dorsal and anal fins with pectoral and pelvic fins, head, and tail remaining grey or brown (USFWS 2005).

Historically ranging from Tillas Slough (mouth of the Smith River, Del Norte County) near the Oregon border to Agua Hedionda Lagoon (northern San Diego County), TWG are still found today entirely within that original known range. The known localities are discrete lagoons, estuaries, or stream mouths separated by mostly marine conditions. TWG are absent from areas where the coastline is steep and streams do not form lagoons or estuaries.

In April 2012, TWG were found in three locations in Oceano Dunes SVRA and Pismo State Beach: Pismo Creek Lagoon, Carpenter Creek pool/lagoon, and Arroyo Grande Creek Lagoon. TWG are known to occur in Pismo Creek and intermittently in Arroyo Grande Creek. The Carpenter Creek mouth is a newly recorded location for TWG presence. The creek is often dry and generally not expected to provide viable habitat, but TWG were reported in Carpenter Creek in 2012 for the first time. This drainage is a collector for Meadow Creek high flows (overflow channel) and is seasonally separated from the mouth of Pismo Creek by a relatively low beach (Rischbieter 2012a). Given the lack of connectivity to Pismo Creek and the Pacific Ocean, the TWG population in Carpenter Creek pools is biologically isolated and desiccates as the creek dries. In June 2012, 50 TWG were rescued and transported to the UC Davis Granite Canyon Marine Pollution Laboratory to create a breeding population for future reintroduction or reestablishment (Rischbieter 2012b).

3.4.3 Discussion

Would the proposed project:

- a. **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

Less Than Significant Impact with Mitigation.

Marsh sandwort, La Graciosa thistle, and Gambel's watercress. These plants are historically known to occur in the Oso Flaco Lake area of Oceano Dunes SVRA (Figure 7). A small population of marsh sandwort remains present in this area. No populations of La Graciosa thistle or genetically pure Gambel's watercress have been found in recent surveys. There is moderate potential for these three plant species to occur at the proposed culvert maintenance work site along the Oso Flaco Causeway due to their historical presence in the project vicinity. Culvert maintenance activities could result in removal of these plant species if present near the culvert inlet or outlet. With limited exception discussed below, due to the small size of these species' populations, removal of individual plants could have a substantial impact on viability of

the species' population and would therefore be considered a significant impact. Implementation of Mitigation BIO-1, below, would reduce this potential impact to a less-than-significant level.

The possibility exists that either sandwort or watercress could be attached to a tule rootball that is clogging the culvert. Every effort would be made to identify such a plant before removal, which would afford the opportunity to salvage the plant by moving it to another location. The fact the plant is clogging the culvert means it would need to be removed. It would likely be severely damaged if left in the culvert because of high flows. In that respect, any listed plant that has been dislodged and found blocking the culvert would be lost regardless of the project.

California red-legged frog. Proposed vegetation trimming and removal and exotic species control activities in riparian areas would occur along vehicle access areas and trails (Table 1) and do not involve work in active stream channels where CRLF are most likely to occur; these activities are not ground disturbing and would not impact CRLF.

CRLF has moderate potential to occur in Meadow Creek, Carpenter Creek, Pismo Lake, and Oso Flaco Lake where ground disturbing activities (culvert maintenance, spillway maintenance, and emergent vegetation removal; Table 1) are proposed. CRLF are not known to occur in the proposed work areas but may be present due to proximity of known populations at nearby Oso Flaco Creek and Arroyo Grande Creek (Figure 8). Adult CRLF present in these work areas at the time of maintenance activities could be crushed by laborers or caught in rakes or other hand equipment used to remove sediment, debris, or vegetation. Any egg masses or larvae could also be crushed by workers and harmed by equipment. These impacts would be considered significant.

In order to reduce the potential for CRLF to be harmed, the OHMVR Division would conduct pre-activity surveys prior to commencing work activities to confirm absence of CRLF in the project work area. If any life stages of CRLF are discovered during pre-activity surveys, the work would not commence until the USFWS is contacted and consulted on how to proceed. Implementation of Mitigation BIO-2a, including compliance with USFWS recommended avoidance measures, would reduce potential direct impacts to CRLF to a less-than-significant level.

The project activities could also indirectly impact CRLF by attracting predators into the CRLF habitat. Disturbance of stream channel soils during culvert maintenance or removal of emergent vegetation can create ponded water areas that support bull frog (*Rana catesbeiana*) and non-native red swamp crayfish (*Procambarus clarkia*) that prey on CRLF. Trash left behind by maintenance crews can attract raccoons (*Procyon lotor*) which also prey on CRLF. Given that CRLF are not known to occur in the proposed area, the attraction of CRLF predators into the work areas is not likely to significantly impact CRLF. However, best management practices (BMPs) are recommended in Mitigation BIO-2b to protect the work areas as habitat potentially supporting CRLF.

Any harm to CRLF could be considered a take under FESA and subject to permit authorization from the USFWS. In a Programmatic Biological Opinion (Appendix B), the USFWS identified measures to avoid or minimize impacts to CRLF for projects subject to Section 404 of the Clean Water Act or authorizations under the Nationwide Permit (NWP) Program. With all these measures in place, the USFWS has determined that qualifying Section 404 projects would not likely adversely affect CRLF. Although the proposed project does not require a NWP (see Clean Water Act discussion in Section 3.4.1 above), many of the avoidance measures identified in the Programmatic Biological Opinion for NWPs would be implemented by the project as required in Mitigation BIO-2.

If pre-activity surveys determine presence of CRLF in the project work area and the USFWS is consulted, the USFWS could concur that the project is not likely to adversely affect CRLF and a

take can be avoided or require the project to go through a permit process under FESA Section 10. The OHMVR Division would be subject to any project conditions issued by the USFWS through this consultation or subsequent permitting process.

Western pond turtle. WPT has moderate potential to occur in riparian areas where removal of emergent vegetation and culvert maintenance activities are proposed. If WPT are present during any of the activities that take place in the water, wetland, or on the edges of these areas, they could be crushed by laborers conducting the vegetation removal or caught in rakes or other hand equipment used to remove the vegetation. These impacts could be significant. In order to reduce the potential for WPT to be harmed, OHMVR Division would conduct pre-activity surveys to confirm absence of WPT in the project work area prior to commencing project activities. If any life stages of WPT are discovered during pre-activity surveys, the work would not commence until the CDFG is contacted and consulted on how to proceed. Implementation of Mitigation BIO-3, including compliance with CDFG recommended avoidance measures, would reduce the impact on WPT to a less-than-significant level.

California least tern. CLT has low potential to occur at the proposed project work sites, but may occur at adjacent areas of open water (Pismo Lake, Oceano Lagoon, Oso Flaco Lake) where they forage. No work is proposed in the lakes proper; however, vegetation trimming is proposed to occur within 50 feet of the lake shore (Table 1). Noise from power equipment could potentially interfere with foraging activity, which would be a significant impact. Implementation of Mitigation BIO-4 would ensure impacts to CLT are less than significant.

Tidewater goby. TWG was first recorded present in Carpenter Creek in 2012 and has the potential to occur in the creek in subsequent years. This small Carpenter Creek population is an extension of the population in Pismo Creek. As Carpenter Creek dries, TWG are found in pools, which tend to form away from the culverts and vegetation that would be affected by the project (pers.comm., Ronnie Glick, 2012). Although the species' presence at the project work sites is very unlikely, direct and indirect disturbance of the fish or its habitat could occur during project culvert maintenance or emergent species control activities at Carpenter Creek. Due to its seasonal flows and lack of connectivity to sustainable habitat, Carpenter Creek does not support viable populations of TWG; any TWG occurring in Carpenter Creek is subject to natural desiccation. In the unlikely event that TWG are extant in Carpenter Creek when project activities are proposed, the fish could be harmed. Implementation of Mitigation BIO-5 would ensure impacts to TWG are less than significant.

Nesting birds. Nesting birds are protected by the MBTA; disturbance of or removal of nests during the nesting season would be considered a significant impact. The potential for significant impacts to nesting birds is low because OHMVR Division has incorporated avoidance and minimization measures into the project design. These measures are listed in Table 2 and are summarized as follows: no work would be scheduled from March 1 to August 15; if any work must occur during this period, a pre-activity survey for nesting birds would be conducted by a qualified biologist and the nest flagged. No work would be performed within 300 feet of a non-raptor bird nest or within 500 feet of a raptor nest. These measures are sufficient to avoid potential impacts to nesting birds. The potential for impact is considered less than significant, and no further mitigation is required.

Impact BIO-1: Marsh sandwort, La Graciosa thistle, and Gambel's watercress could be present at project work sites in the Oso Flaco Lake area. All three plants are federal endangered species. Additionally, marsh sandwort is state endangered, and La Graciosa thistle and Gambel's watercress are state threatened. Culvert maintenance at the Oso Flaco Causeway would cause ground disturbance that could harm these plants if present.

Mitigation BIO-1: OHMVR Division shall conduct pre-activity surveys to confirm absence of Marsh sandwort, La Graciosa thistle, and Gambel's watercress prior to commencing ground

disturbance activities in potential habitat areas. If the plants are found during pre-activity surveys, including any Gambel's watercress hybrids, the work would not commence until USFWS and CDFG are contacted and avoidance measures are implemented. These measures shall include flagging the area that supports the species and informing all workers of the need to stay out of flagged area. If marsh sandwort or Gambel's watercress are found blocking a culvert, every effort will be made to identify such plants before they are removed. If feasible and in consultation with the agencies, the plant may be salvaged and relocated.

Implementation: OHMVR Division

Effectiveness: Implementation would avoid disturbance to Marsh sandwort, La Graciosa thistle, and Gambel's watercress

Feasibility: Feasible

Monitoring: OHMVR Division shall retain qualified biologists to conduct pre-activity surveys and monitor project activities. The biologist(s) shall prepare a written record of survey results and implementation of any avoidance/minimization measures to be kept on file at the Oceano Dunes District office.

Impact BIO-2: CRLF, a federal threatened and state species of special concern, is not known to occur in the proposed riparian maintenance work areas but could be present. Egg masses, larvae, or adult frogs present in the project area could be harmed by culvert and spillway maintenance and the removal of emergent vegetation. Maintenance activity could indirectly attract CRLF predators into the potential CRLF habitat areas.

Mitigation BIO-2a: Culvert maintenance shall be done during periods when egg masses or larvae are unlikely to occur in the project area, e.g., low flow periods. A USFWS-approved biologist shall survey the work site two weeks before the onset of activities in or near ponded or flowing water. If CRLF adults, tadpoles, or eggs are found, work shall not commence until the USFWS is contacted and avoidance measures are in place. The following measures shall be implemented along with any measures identified by the USFWS during the consultation process:

1. Any CRLF life-stages found in the project work area may be relocated upon determination by the USFWS that an appropriate relocation site exists and relocation is the preferred avoidance method. If the USFWS approves moving animals, the approved biologist shall be allowed sufficient time to move CRLF from the work site before work activities begin. Only USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of CRLF.
2. Before any project activities occur at a maintenance site, a USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the CRLF and its habitat, the importance of the CRLF and its habitat, the general measures that are being implemented to conserve the CRLF as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.
3. A USFWS-approved biologist shall be present at the work site until such time as all removal of CRLF, instruction of workers, and habitat disturbance have been completed. After this time, the contractor or permittee shall designate a person to monitor on-site compliance with all minimization measures. The USFWS-approved biologist shall ensure that this individual receives training outlined above and in the identification of CRLF. The monitor and the USFWS-approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USFWS during review of the proposed action. If work is stopped, the USFWS shall be notified immediately by the USFWS-approved biologist or on-site biological monitor.

Mitigation BIO-2b: The following BMPs shall be implemented to avoid attracting CRLF predators into potential CRLF habitat.

1. After removal of emergent vegetation in the stream channel, disturbed areas with the potential to pond water shall be smoothed with a rake to avoid creation of potential habitat for CRLF predators, including bull frogs and crayfish.
2. Any CRLF predators, e.g., bull frog and non-native red swamp crayfish, shall be removed by an approved staff biologist.
3. Trash that attracts predators of CRLF (i.e., raccoon) shall be removed from the proposed work area.

Implementation: OHMVR Division

Effectiveness: Implementation would avoid harm to CRLF.

Feasibility: Feasible

Monitoring: OHMVR Division shall retain qualified biologists to conduct pre-activity surveys and monitor project activities. The biologist(s) shall prepare a written record of survey results and implementation of any avoidance/minimization measures to be kept on file at the Oceano Dunes District office.

Impact BIO-3: WPT, a state species of special concern, is not known to occur within the project work areas but could be present. If present, culvert and spillway maintenance and the removal of emergent vegetation from could result in disturbance or harm to individual WPT.

Mitigation BIO-3: A qualified biologist shall conduct a pre-construction survey for WPT in the project work area prior to commencing project activities. A combination of visual and trapping surveys may be performed with authorization from CDFG. If the species is found present in the work area, the biologist with approval from CDFG may capture turtles prior to maintenance activities and relocate them to nearby, suitable habitat a minimum of 300 feet downstream from the work area. Exclusion fencing shall then be installed if feasible to prevent turtles from reentering the work area for the duration of maintenance work.

Implementation: OHMVR Division

Effectiveness: Implementation would avoid disturbance of western pond turtle by project activities.

Feasibility: Feasible

Monitoring: OHMVR Division shall retain qualified biologists to conduct pre-activity surveys and monitor project activities. The biologist(s) shall prepare a written record of survey results and implementation of any avoidance/minimization measures to be kept on file at the Oceano Dunes District office.

Impact BIO-4: CLT, a federal endangered and state endangered species, may be foraging adjacent to Pismo Lake, Oceano Lagoon, and Oso Flaco Lake work sites. Noise from power equipment used during maintenance activities could disrupt foraging if least terns are present.

Mitigation BIO-4: CLT shall be protected from harm during work conducted at the Oceano Lagoon, Pismo Lake, and Oso Flaco Lake through monitoring of the treatment activity by qualified biologists. If any work is scheduled between April 15 and September 15, qualified biologists shall be on site during activities taking place at the Oceano Lagoon, Pismo Lake, and Oso Flaco Lake. If least terns are not foraging nearby or biologists observing least tern foraging activity determine that least terns would not be disturbed by the work, it may proceed as planned. However, if least terns are present and have the potential of being disturbed, the biologist shall direct work to stop within 250 feet of the bird until it leaves on its own accord.

Implementation: OHMVR Division

Effectiveness: Implementation would avoid disruption of least tern foraging by project activities.

Feasibility: Feasible

Monitoring: OHMVR Division shall retain qualified biologists to monitor project activities. The biologist(s) shall prepare a written record of monitoring results and implementation of any avoidance/minimization measures to be kept on file at the Oceano Dunes District office.

Impact BIO-5: TWG, a federal endangered species, could occur within the project work area. If present, culvert maintenance and the removal of emergent vegetation from could result in harm to individual TWG.

Mitigation BIO-5: A qualified biologist shall conduct a pre-construction survey for TWG in Carpenter Creek prior to commencing project activities. If TWG is present in the work area, the biologist will consult with USFWS to determine suitable avoidance/minimizations measures. Such measures may include 1) avoidance through worker education and establishing fencing or otherwise demarcating a barrier between the work site and the TWG population or 2) relocation.

Implementation: OHMVR Division

Effectiveness: Implementation would minimize loss of TWG by project activities.

Feasibility: Feasible

Monitoring: OHMVR Division shall retain qualified biologists to conduct pre-activity surveys and monitor project activities. The biologist(s) shall prepare a written record of survey results and implementation of any avoidance/minimization measures to be kept on file at the Oceano Dunes District office.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact. Routine riparian maintenance activities would cause temporary impacts to wetlands and waterways by disturbing habitat; disturbance to soil that causes ponding of water; injury or death of native plant species; altering water quality (downstream sedimentation, increased turbidity); and possibly altering water flows (i.e., with removal of vegetation in Meadow Creek). The work would occur within the live streambed and is therefore subject to CDFG regulatory authority (Fish and Game Code §1602). CDFG has determined that project activities may substantially adversely affect fish and wildlife resources and has informed the OHMVR Division that a Lake or Streambed Alteration Agreement (Agreement) is required for the project (Ronnie Glick, pers. comm., 2012). The approved Agreement would include reasonable conditions necessary to protect those resources and must comply with CEQA. The OHMVR Division may proceed with the activity in accordance with the Agreement.

The OHMVR Division has incorporated avoidance and minimization measures (Table 2) into the project to limit the temporary impacts to riparian areas from the maintenance activities. Such measures include using a filter screen in from of culvert inlets and outlets to help filter and settle disturbed sediment, removing invasive exotics to retain a natural riparian plant community, and removing downed trees out of a water body to maintain water flow in the stream.

Herbaceous vegetation (blackberries, poison oak, mugwort, and stinging nettle) would be cleared up to four feet from along roads and paths. This is not a permanent removal of vegetation; plants re-grow from the plant base within the growing season. Cutting the top leaves of emergent plants to a six-inch height would have a temporary impact as the cut portion of the vegetation would be removed, but the plant root stalks would remain in place and send up new vegetative shoots. If emergent plants need to be dug out (approximately 5 per 25 square feet), this could cause a temporary impact, but there are sufficient plants remaining in the stream channel to assure the continuity of the established emergent habitat.

Necessary removal of live riparian willows and cottonwood with a diameter of more than four inches would be replaced at a 1:1 ratio as mitigation incorporated into the project (Table 2). Multi-stemmed trees would be treated as a single tree for mitigation purposes.

The environmental protection measures incorporated into the project (Table 2) would avoid or minimize potential significant effects to the riparian habitat. The maintenance actions of removing sediment build-up in culverts, removing emergent vegetation clogging the creek channels, and eliminating the spread of exotic species would improve the quality of riparian habitat by improving water flow through the creeks and reducing non-native plant growth. The benefits of proper riparian maintenance outweigh the temporary, short term impacts from the maintenance activities. Therefore, the project impacts to riparian habitat are considered less than significant and no further mitigation is required.

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact. The project would affect an annual maximum of approximately 0.3 acres of wetlands for culvert removal, debris removal, and emergent vegetation removal as indicated in Table 4. Approximately two miles of riparian corridor segments would be subject to spot treatments of tree maintenance and exotic weed control as the need arises.

Although a wetland delineation was not conducted at the specific project areas, the USACE confirmed the project area contains jurisdictional waters of the U.S. However, the project does not propose dredging or filling activities and therefore is not subject to permitting requirements of Section 404 of the Clean Water Act (U.S. Department of Army 2012).

Table 4. Area of Effect In and Out of Wetlands		
Location and Activity	In Wetland (square feet)	Outside Wetland (linear feet)
Pismo Lake – Spillway	1,500 (vegetation and debris removal)	375 (riparian tree trimming)
Oso Flaco Lake Causeway	200 (culvert cleanout)	1,350 (riparian tree trimming and exotic weed control)
Oceano Lagoon Trail (east and west sides and Peninsula)	0	6,436 (riparian tree trimming and exotic weed control)
Meadow Creek at North Beach Campground	5,500 (emergent vegetation removal)	1,600 (riparian tree trimming)
Carpenter Creek at North Beach Campground	1,100 (culvert cleanout and emergent vegetation removal)	0
Meadow Creek (Access Road, Ranger Station, Maintenance Yard)	5,000 (vegetation trimming and debris removal)	1,584 (riparian tree trimming)
Meadow Creek at State Route 1/Grand Avenue	0	100 (exotic weed control)
Total	13,300 (0.31 acres)	11,445 (2.17 miles)

Source: OHMVR Division

The OHMVR Division has incorporated avoidance and minimization measures (Table 2) into the project to limit the impacts to wetlands from the maintenance activities. Such measures include using a filter screen in front of culvert inlets and outlets to help filter and settle disturbed

sediment, and removing invasive exotics to retain a natural wetland plant community. Given that the disturbance to wetlands would be temporal, environmental protection measures are in place to minimize disturbance, and the maintenance activities would have the beneficial effect of improving the quality of wetland habitat, the impact to federally protected wetlands is considered less than significant.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact. The primary purpose of the project is protection of riparian corridors by removal of debris, downed vegetation, and emergent vegetation that impede the movement of water through culverts, over the spillway, along creeks, and within lakes and lagoons. Only vegetation that hinders water flow would be removed. By opening up the waters and wetlands, the project maintenance activities would enhance the ability of wildlife species to use the wetlands and waters as movement corridors. Furthermore, the project would enhance the use of these waters as nursery sites for fish and amphibians.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. Although trees removed within the coastal zone require approval through the Coastal Development Permit process, the project would not remove any mature trees. The purpose of the project is to remove debris and downed vegetation that are affecting the movement of water, including from culverts, over a spillway, along creeks, and within lakes and lagoons. Only vegetation that hinders water movement would be removed and mostly includes downed trees and shrubs, debris, emergent vegetation, and exotic plant species. The impacts would not be significant.

f. Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. OHMVR Division is currently developing an HCP that includes Pismo State Beach and the Oceano Dunes SVRA, but the HCP has not been completed or approved by the trustee agencies. This project would be consistent with activities anticipated by the HCP.

3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.5.1 Environmental Setting

There are 42 recorded archaeological sites in the SVRA. The prehistoric sites located within the park that have been determined to be significant historical resources are fully protected with hard fencing that is in place throughout the year. These sites have been successfully closed to vehicular recreation for many years. CDPR Archaeologists Alicia Perez and Kelly Long determined that no archaeological sites, unique paleontological resources, or human remains are located or expected in the proposed maintenance areas (Alicia Perez, pers. comm., 2011). No historical resources are present at the proposed maintenance areas.

3.5.2 Discussion

Would the proposed project:

a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

No Impact. The project area was included in a 2009-2010 cultural resource inventory of the Oceano Dunes District. Based on the results of the archaeological pedestrian survey, no cultural resources or resources determined to be historical resources according to the California and/or National Register criteria exist within the project boundary (Alicia Perez, pers. comm., 2011).

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

No Impact. Results from the 2009-2010 cultural resource inventory of Oceano Dunes SVRA reveal that no known archaeological sites exist within the project treatment sites, and none would be affected. Per the objectives, criteria, and procedures required by PRC Section 21082, standard measures to avoid impacts to cultural resources have been incorporated into the project (Table 2; Alicia Perez, pers. comm., 2011).

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. This activity would not significantly modify existing topography or impact paleontological resources or geologic features. There has been no documentation of significant paleontological resources or geological features in the project treatment areas by Division cultural resource specialists (Alicia Perez, pers. comm., 2011).

d. Disturb any human remains, including those interred outside of formal cemeteries?

No Impact. Resources have not been identified within the project treatment sites as having Native American human remains or remains interred outside of formal cemeteries on the surface, and no impacts to these resources are expected. It is not safe to assume, however, that subsurface remains do not exist. Standard measures to address the unexpected discovery of human remains have been incorporated into the project (Table 2; Alicia Perez, pers. comm., 2011).

3.6 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.6.1 Environmental Setting

The information below is summarized from a Geotechnical Investigation (Geocon 2009) prepared for the new visitor center project at Pismo State Beach. Since the riparian treatment sites are in the same general area of the visitor center, some of the setting information from that document applies to the sites and is incorporated here.

Project Soils

Elevations at the project sites range from approximately 10 feet above mean sea level (MSL) to 20 feet above MSL. Soil and geologic conditions predominantly consist of recent sand dune/alluvial deposits overlying interbedded older sand dune and estuarine deposits. The primary soil unit in the vicinity of lower Pismo Lake and Meadow and Carpenter Creeks is Merimel silty clay loam (CSLRCD 2010). The silty clay loam consists of deep, somewhat poorly

drained soils that are formed in alluvium from weathered sedimentary rock. It is found on flood plains, alluvial fans, and in valleys. It is characterized as having very slow to slow runoff and moderately slow permeability with some areas subject to occasional flooding. Natural vegetation typically associated with Merimel soils include annual grasses, forbs, and water tolerant plants. It is identified as a hydric soil (Geocon 2009).

Geologic Hazards

The project sites are not located on any known active earthquake fault traces. In addition, the site is not within an Alquist-Priolo earthquake fault zone. The closest active fault is the San Luis Range Fault, located approximately 1.4 miles to the northeast. In addition, the County Hazard Map identifies the Los Oso Fault as being approximately ten miles north of the project area near the City of San Luis Obispo.

Seismicity – Liquefaction and Lateral Spreading

The Oceano area and project site locations are particularly prone to liquefaction and lateral spreading. Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary loss of shear strength during intense earthquakes. Lateral spreading is a phenomenon in which soils move laterally during seismic shaking and is often associated with liquefaction.

Significant liquefaction and lateral spreading occurred in Oceano during the 2003 San Simeon earthquake, where the closest fault rupture surface was located approximately 40 miles north of Oceano and significant damage occurred as a result. Two major liquefaction-induced lateral spread sites occur within a 0.25-mile radius of the visitor center site (Geocon 2009). In addition, liquefaction-induced sand boils and an extensional lateral spread feature occur at the visitor center site and lateral spreading locations occur nearby.

3.6.2 Discussion

Would the proposed project:

- a. **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**
 - i. **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?**

No Impact. There are no active faults mapped within the Pismo State Beach or Oceano Dunes SVRA boundaries (SLO County Natural Hazards Map: Earthquake Fault Zone). In addition, the area is not located within an Alquist-Priolo Earthquake fault zone. Therefore, there would be no impact to people or structures from the rupture of a known earthquake fault.

ii. Strong seismic ground shaking?

Less Than Significant Impact. The treatment sites are located in San Luis Obispo County within a seismically active area, and the sites would be subject to strong seismic shaking during the next major earthquake. Since the project does not involve creation of building or other structures, the impacts from strong seismic ground shaking at the site would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. The town of Oceano has been subject to liquefaction and amplification in previous seismic events. It can therefore be concluded that the location where the maintenance work is proposed would be subject to liquefaction and or amplification in the event of a future seismic event. Since the project does not involve construction of any buildings or structures, liquefaction at the project sites would not result in any structural damage or public safety risk. The impact is considered less than significant.

iv. Landslides?

No Impact. San Luis Obispo County hazard maps show the project areas have a low potential for landslides. The topography at the project sites is flat, which is not conducive to landslides.

b. Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Proposed project activities involving spillway maintenance and tree and shrub maintenance would cause minimal or no disturbance of surface soils. Removal of debris and sediment build up from culverts and removal of emergent vegetation and exotic species could cause soil disturbance, particularly if heavy equipment use is required. Most of the work would use manual labor for debris removal, which minimizes the chances that erosion would occur. The project has been designed with environmental protection measures to reduce soil erosion (Table 2). With these measures in place, the impact is considered less than significant.

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. Although the soils underlying the project site are known areas of liquefaction and amplification, the proposed maintenance activities would not trigger an episode of liquefaction and would not introduce new structures or a land use that would be sensitive to liquefaction and amplification. No significant impacts would occur.

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact. The soils in the project area exhibit a low expansion potential (Geocon 2009). Furthermore, the work to be done at the maintenance sites does not involve installation of new infrastructure. The project activities of drainage maintenance and vegetation management would not be affected by soil expansion potential.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. Wastewater or septic tank systems are not proposed for the project.

3.7 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.7.1 Regulatory and Environmental Setting

Gases that trap heat in the atmosphere and affect regulation of the Earth's temperature are known as greenhouse gases (GHG). Common GHG include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF₆).

GHG emissions from human activities contribute to overall GHG concentrations in the atmosphere and climate scientists have become increasingly concerned about the effects of these emissions on global climate change. Human (anthropogenic) production of GHGs has increased steadily since pre-industrial times and atmospheric CO₂ concentrations have increased from a pre-industrial value of 280 ppm to 394 ppm in April 2012 (NOAA 2012). The United Nations' International Panel on Climate Change (IPCC) fourth assessment report (AR4) concluded that recent regional climate changes, particularly temperature increases, are affecting many natural systems including water, ecosystems, food, coasts, and health (IPCC 2007). The AR4 concluded that most of the observed increase in global average temperature since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations (IPCC 2007).

GHGs can remain in the atmosphere long after they are emitted. The potential for a GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO₂, which has a GWP of one. By comparison, CH₄ has a GWP of 21, which means that one molecule of CH₄ has 21 times the effect on global warming as one molecule of CO₂. Multiplying the estimated emissions for non-CO₂ GHGs by their GWP determines their carbon dioxide equivalent (CO₂e), which enables a project's combined global warming potential to be expressed in terms of mass CO₂ emissions.

In 2006, the California State Legislature adopted the California *Global Warming Solutions Act of 2006*, Assembly Bill (AB) 32, which required the California Air Resources Board (CARB) to: 1) determine 1990 statewide GHG emissions, 2) approve a 2020 statewide GHG limit that is equal to the 1990 emissions level, 3) adopt a mandatory GHG reporting rule for significant GHG emission sources, 4) adopt a Scoping Plan to achieve the 2020 statewide GHG emissions limit, and 5) adopt regulations to achieve the maximum technologically feasible and cost-effective reductions.

In 2007, the CARB approved a statewide 1990 emissions level and corresponding 2020 GHG emissions limit of 427 million metric tons of carbon dioxide equivalents (MMTCO₂e) (CARB 2007). In 2009, the ARB adopted its 2008 *Climate Change Scoping Plan*, which projects, absent regulation or under a "business as usual" (BAU) scenario, 2020 statewide GHG emissions

levels of 596 MMTCO₂e and identifies the numerous measures (i.e., mandatory rules and regulations and voluntary measures) that will achieve at least 174 MMTCO₂e of reductions and reduce statewide GHG emissions to 1990 levels by 2020 (CARB 2009a). In 2011, the CARB released a supplement to the 2008 Scoping Plan Functional Equivalent Document (FED) that included an updated 2020 BAU statewide GHG emissions level projection of 507 MMTCO₂e (CARB 2011).

In 2011, the San Luis Obispo County Board of Supervisors adopted the EnergyWise Plan, which outlines the County's approach to reducing municipal and community-wide GHG emissions to 15% below baseline 2006 levels by establishing goals, measures, and actions (San Luis Obispo County 2011). This plan includes emissions from off-road equipment and transportation in its GHG inventories and reduction goals.

The San Luis Obispo County APCD CEQA Air Quality Handbook (2009) identifies a GHG significance threshold of project operations of 1,150 MTCO₂e per year.

3.7.2 Discussion

Would the project:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Global climate change is the result of GHG emissions worldwide; individual projects do not generate enough GHG emissions to influence global climate change. Thus, the analysis of GHG emissions is by nature a cumulative analysis focused on whether an individual project's contribution to global climate change is cumulatively considerable.

Less Than Significant Impact. Project activities would generate GHG emissions from gasoline and diesel fuel combustion for equipment use and vehicle trips, however, these emissions would not exceed applicable APCD CEQA significance thresholds and would therefore not have a significant impact on the environment.

Table 3 (Section 3.3, Air Quality), presents an estimate of the project's short-term construction emissions (using the California Emissions Estimator Model (CalEEMod), Version 2011.1.1). As shown in Table 3, project activities would generate up to 25.5 MTCO₂e per year. This value is below the APCD's CEQA significance threshold of 1,150 MTCO₂e per year and is therefore a less than significant impact.

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. Project activities would not conflict with an applicable plan, policy, or regulation adopted for the purposes of greenhouse gases. The EnergyWise Plan does not contain any measures or actions for directly limiting or reducing greenhouse gas emissions from project-related activities and includes off-road equipment and vehicle trips in its baseline (2006) and forecasted (2020) land use and transportation GHG emissions estimates and reduction goals.

3.8 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.8.1 Discussion

Would the proposed project:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. The project does not involve the routine transport, use, or disposal of hazardous materials. The management of exotic weeds would include the use of herbicides; however, regulations in place by the County Department of Agriculture require that herbicide applicators comply with safe practice measures when transporting and using the

herbicides. The application of herbicides would be limited in scope and frequency. Commercial herbicide applications typically have a restricted entry interval of less than 24 hours. Herbicide use would not create a hazardous exposure risk to the environment, and the public would not be exposed to areas treated by herbicides. Impacts would be less than significant.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. The routine riparian maintenance activities are unlikely to create situations that would result in the accidental release of hazardous materials. Hazardous materials associated with the project include petroleum products used in transport vehicles and heavy equipment, and herbicides to be used to manage exotic plants. Regulations in place by the County Department of Agriculture require that herbicide applicators comply with safe practice measures when transporting and using herbicides. The transport vehicles and heavy equipment shall comply with existing environmental protection measures that make sure there is no gas or oil leaking from the vehicles/equipment. Impacts would be less than significant.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or hazardous waste within one-quarter mile of an existing or proposed school?

No Impact. There are no schools within one-quarter mile of the project site. The closest school is Oceano Elementary located on 17th Street in Oceano, about one mile east of the project site. The project does not involve the emission or handling of hazardous or acutely hazardous materials, substances or hazardous waste.

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. No hazardous material sites are known to occur on or in the vicinity of the project site. The project site is not on the Department of Toxic Substance Control's Hazardous Waste and Substance Site List (Cortese List; Department of Toxic Substances 2008).

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The Oceano County airport is located roughly one-quarter mile south of the Oceano Dunes SVRA. The project sites are located within Area C of the adopted Airport Land Use Plan (Airport Land Use Commission 2007). The proposed project would not result in an airport safety hazard. Project activities are not subject to ALUC review and approval as they do not include any features such as highly reflective surfaces or unusually tall structures that could pose hazardous to aircraft overflights.

f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. There are no private air strips within two miles of the project site, so the project would not result in a safety hazard for people residing or working in the project area.

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The proposed routine riparian maintenance work would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

h. Expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands?

Less Than Significant Impact. The project would not create new risk of wild land fire or expose people or structures to a significant risk of loss, injury, or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands. The project is not located within the urban/wild land interface; however the area is mapped as a “moderate” fire hazard area (<http://sloplanning-maps.org>). There are adequate fire fighting capabilities in the event of small fires within the park, and for larger fires, the area would be subject to existing park emergency response plans.

3.9 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.9.1 Discussion

Would the proposed project:

a. Violate any water quality standards or waste discharge requirements?

No Impact. The project would not violate any water quality standards or waste discharge requirements. The project would improve water quality and movement by removing sediment, debris, exotic vegetation and downed vegetation in water bodies. No wastewater or waste discharges would be created by the project. No water quality standards would be violated.

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact. The project does not propose to extract groundwater. The project does not involve significant amounts of cut or fill that could change the direction or rate of groundwater flow. The project does not involve the installation of wells to extract groundwater.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. The existing drainage pattern of the area would not be substantially altered from the existing drainage pattern at the treatment sites. Removing sediment from culverts and debris, downed vegetation, and emergent vegetation as identified in Table 1 would not alter the course of the waterways but would improve water flow through the treated channel segments reducing the potential for backed up storm flows and localized site flooding. Work in the streambed channels could disturb soils resulting in temporal sedimentation impacts as discussed in Section 3.6.2 Response b. Environmental protection measures are incorporated into the project (Table 2). The project would not result in substantial erosion or siltation offsite.

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less Than Significant Impact. The project does not involve altering the course of a stream or river but would increase diminished channel flow capacities by removing flow impediments of culverts clogged with sediment and creek channels restricted by vegetation growth and debris. Improved flows would speed drainage of creeks to the Pacific Ocean and Oceano Lagoon thereby reducing the potential for localized flooding. The project would not increase the amount of surface runoff and would not result in flooding on- or off-site.

e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

No Impact. Project activities would not create or contribute to surface runoff. No new impervious surfaces are proposed as part of the project.

f. Otherwise substantially degrade water quality?

Less Than Significant Impact. The project would not degrade water quality. The project would improve water quality and movement by removing sediment, debris, exotic vegetation and downed vegetation in water bodies. Potential for increased sediment in water due to project activity is discussed in Section 3.9.2 Response c above.

g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The project does not involve construction of residential or any other structures.

h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact. The project does not involve construction of residential or any other structures.

i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The project would not expose people or structures to a significant risk of loss or injury or death involving flooding as no work would be conducted during any storm events that could cause flooding. Local public safety, public works, and related agencies would use standard emergency response procedures or internal procedures in the event of flood conditions. Project activities would improve channel flow capacity.

j. Result in inundation by seiche, tsunami, or mudflow?

Less Than Significant Impact. The project is located in an area that could be subject to inundation by seiches and tsunamis due to its proximity to the Pacific Ocean and Oceano Lagoon. However, the impact is considered less than significant due to the County's Tsunami Response Plan (San Luis Obispo County 2005, revised 2006 and 2010) in effect for the County. The project activities of vegetation and drainage maintenance along riparian corridors do not create new or increased risk of exposure to seiche, tsunami, or mudflow. The project would not put the public or structures at risk of harm from seiche, tsunami, or mudflow.

3.10 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.10.1 Regulatory Setting**California State Parks General Plan**

The project treatment sites occur on state-owned property within Pismo State Beach and the Oceano Dunes SVRA. These park units are governed by policies set forth in the General Development Plan completed in April 1975 (CDPR 1975).

Pismo State Beach

The General Development Plan declares the purpose of Pismo State Beach is to make available to the people an outstanding coastal area of beach and sand dunes located in and southward from the City of Pismo Beach in San Luis Obispo County. Specific recreational activities to be perpetuated and provided for include the aesthetic enjoyment of dune sand shore; beach vehicular travel, when consistent with the perpetuation of the natural values; camping, both in established inland facilities and on the beach in appropriate zones; fishing and clamming under appropriate applicable regulations; and walking or riding horseback in the sand dune areas.

It is General Development Plan policy that Pismo State Beach will be managed by CDPR to perpetuate and enhance the recreational opportunities afforded by this outstanding coastline, together with the scenic and natural features upon which such recreational opportunities depend; to regulate the various uses in the interest of the safety and enjoyment of visitors; and to coordinate the various activities and uses in such a way that the resources of the area are protected and perpetuated to ensure their continuous availability to the people. All activities within Pismo State Beach shall be carried out under the guidelines established by the Resource Management Directives of CDPR.

Oceano Dunes SVRA

The General Development Plan declares the purpose of Oceano Dunes SVRA, formerly Pismo Dunes SVRA, is to make available to the people opportunities for recreational use of off-road vehicles in a large area of unstabilized sand dunes exceptionally adapted to this recreational activity; to regulate such uses in the interest of visitor safety and environmental protection; and to provide appropriate related facilities to serve the users of the area. At the same time, the area

is established to afford protection to surrounding stabilized sand dunes that embrace some areas of great ecological interest and significance, including freshwater lakes. These areas are important not only in their own right, but also as key elements in the environment within which the vehicular activities will take place and in the quality of the visitor experience arising from those activities. This protection is to be afforded by exclusion of vehicular activities, by establishment of natural preserves in appropriate locations, and by other measures as required.

It is General Development Plan policy that CDPR manage Oceano Dunes SVRA in ways that perpetuate and enhance the uses and values enumerated in the declaration of purpose, that reduce or eliminate conflicts between patterns of use arising from the kinds of resources present in the area, and that forward mutual understanding between the diverse groups of visitors and interested persons who use this area for various recreational and scientific pursuits. Operating and management procedures will provide for the protection and perpetuation of the several islands of vegetation existing within the designated vehicular use areas. All departmental activities at Oceano Dunes SVRA will be carried out within the guidelines established by the Resource Management Directives of CDPR.

Off-Highway Motor Vehicle Act of 2003 (Public Resources Code Section 5090.01 et.seq)

The Off-Highway Motor Vehicle Act of 2003 establishes the mandate of CDPR to provide for and manage off-highway vehicle (OHV) recreation in a sustainable manner that protects natural resources. Public Resources Code Section 5090.35 requires preparation and implementation of a Wildlife Habitat Protection Plan (WHPP) for all SVRAs, including Oceano Dunes SVRA. A WHPP is designed to assist resource managers in maintaining and protecting current wildlife populations and their habitats. The WHPP is a three-tiered process that includes a baseline inventory of plant and animal species (including special-status species), plant communities (habitats), and soil types, implementing an annual monitoring program, and managing the park to sustain biodiversity. Special-status species populations are identified and monitored to ensure their protection, as well as to identify factors that may contribute to the overall ecological health of the habitats.

In accordance with the WHPP, sensitive areas at Ocean Dunes SVRA have been mapped and include riparian corridors, ponds, known locations of special-status plants, and other unique features. These areas are monitored by park personnel for signs of degradation and receive special protection to reduce recreational impacts. Using the data collected from the sensitive habitat surveys, the spread of existing exotic plants is monitored so that new invaders can be detected. Park Environmental Scientists are responsible for updating and prioritizing the exotic pest plant list. As target species are identified, a weed management strategy is developed to facilitate removal of the selected species.

California Coastal Act

The California Coastal Act of 1976 established the California Coastal Commission to, among other things, "Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources" (California Coastal Act Section 30001.5). The Coastal Act governs any development along the coast. "Development" is broadly defined and includes "grading, removing, dredging, mining, or extraction of any materials; ... and the removal or harvesting of major vegetation other than for agricultural purposes[.]"

Local governments within the coastal zone administer the Coastal Act via a Local Coastal Program (LCP). The LCP specifies appropriate location, type, and scale of new or changed uses of land and water. Each LCP includes a land use plan and measures to implement the plan, such as zoning ordinances. The LCP must be certified by the California Coastal Commission. Upon certification, the Coastal Commission's coastal permitting authority over

most coastal zone development is transferred to the local government, which applies the requirements of its LCP in reviewing proposed new development. The Commission retains jurisdiction over development proposed on tidelands, submerged lands, and public trust lands and over permits issued by the Coastal Commission prior to LCP certification. The Commission also acts on appeals from certain local government coastal development permit (CDP) decisions.

The project area is within the coastal zone of San Luis Obispo County. The project activities located north of Grand Avenue (Pismo Lake spillway and Meadow and Carpenter Creeks at North Beach Campground; Figure 3) occur within the coastal zone governed by the City of Pismo Beach General Plan and LCP, which was certified in 1993. Project activities located south of Grand Avenue (Meadow Creek at Grand Avenue, Figure 4; Meadow Creek at Maintenance Yard, Access Road, and Oceano Lagoon, Figure 5; and Oso Flaco Natural Area, Figure 6) occur within the coastal zone governed by the County of San Luis Obispo LCP, which was certified in 1988.

Oceano Dunes SVRA operates pursuant to CDP 4-82-300, issued in 1982 by the California Coastal Commission, and last amended in 2001. The permit governs boundary fencing, access control, and limits on motorized recreation. Since CDP 4-82-300 predates the County LCP, the Coastal Commission retains permit jurisdiction for project activities governed by the permit. No such activities are included within the proposed project.

At least some of the proposed project activities likely require a CDP. Depending on the particular work site location, a CDP may need to be issued by Pismo Beach, San Luis Obispo County, or directly from the California Coastal Commission if project activities occur where jurisdiction has been retained by the state. The following San Luis Obispo County LCP policies summarized here address protection for coastal stream habitats and are relevant to the proposed project:

Policy 20: Coastal Streams and Riparian Vegetation. Coastal streams and adjoining riparian vegetation are environmentally sensitive habitat areas (ESHA) and the natural hydrological system and ecological function of coastal streams shall be protected and preserved.

Policy 22: Fish and Game Review of Streambed Alterations. Significant streambed alterations require the issuance of a California Department of Fish and Game 1601-1603 agreement. The Department should provide guidelines on what constitutes significant streambed alterations so that the county and applicants are aware of what is considered a "significant" streambed alteration. In addition, streambed alterations may also require a permit from the USACE.

Policy 23.07.174: Streams and Riparian Vegetation. Coastal streams and adjacent riparian areas are environmentally sensitive habitats. The provisions of this section are intended to preserve and protect the natural hydrological system and ecological functions of coastal streams.

b. Limitation on streambed alteration: Channelization, dams or other substantial alteration of stream channels are limited to: 1) Necessary water supply projects, 2) Flood control projects, and 3) Construction of improvements to fish and wildlife habitat. Streambed alterations shall not be conducted unless all applicable provisions of this title are met and if applicable, permit approval is obtained from CDFG, USACE, USFWS, and California State Water Resources Control Board. Every streambed alteration conducted shall employ the best mitigation measures where feasible.

e. Alteration of riparian vegetation: Cutting or alteration of natural riparian vegetation that functions as a portion of, or protects, a riparian habitat shall not be permitted except: 1) For streambed alterations allowed by subsection b above; 2) Where an issue of public safety exists; 3) Where expanding vegetation is encroaching on established agricultural uses; 4)

Minor public works projects; 5) To increase agricultural acreage; and 6) To locate a principally permitted use on an existing lot of record.

The following Pismo Beach LCP policies address protection of riparian habitat areas. Although largely geared to traditional development projects, some of the following may be relevant to the proposed project:

Policy CO-14: Riparian Habitat. It is the policy of the City to preserve riparian habitat under the following conditions:

1. As part of discretionary planning permits, a biotic resources management plan shall be required.
2. The biotic resources management plan shall include standards for project development which will avoid habitat disturbance.
3. The standards specified in the biotic resource management plan shall be utilized to determine the extent of development. The minimum standards that may be specified in the biotic plan for the preservation of habitat shall include:
 - Preservation of groupings of trees in which at least 10 trees with a minimum 6-inch diameter will be preserved.
 - Plants may be removed from the habitat areas if diseased or if they present a hazard to public safety. Such conditions must be certified by a professional horticulturist or a certified landscape architect. Plants removed for these reasons must be replaced with at least 4 minimum 15-gallon specimens of each species.
 - No significant disruption of riparian vegetation will be permitted. In addition, a minimum riparian buffer area shall be identified for each riparian habitat area at the time of development review. Except as specified in Policy CO-21 for Pismo Creek and Policy CO-23 for Pismo Marsh, the minimum width of the buffer area shall be as identified by the biotic resources management plan and generally not less than 25 feet. Development standards for the minor riparian habitat areas and their respective buffer areas shall be the same as provided in Policy CO-21 with respect to kinds and locations of allowable uses.

Policy CO-28: Natural Drainage Channels. Drainage channels shall remain in a natural open space state with minimal or no use of concrete channels. Dredging, filling, and grading within stream corridors shall be limited to activities necessary for flood control purposes, bridge construction, water supply projects, or laying of pipelines when no alternative route is feasible. Revegetation and restoration of the natural setting shall be required.

Alteration of existing drainage patterns shall be prohibited unless special studies prove that the proposed alteration will not cause any adverse impacts downstream or to other aspects of the environment. Prior to approval of any new development, a detailed analysis of surface water runoff patterns shall be undertaken to determine storm drain needs and identify mitigations for any with possible adverse environmental impacts. No runoff that will negatively affect the Pismo Marsh shall be permitted.

3.10.2 Environmental Setting

Pismo State Beach

Pismo State Beach is a narrow, linear park along the coastline divided between the City of Pismo Beach to the north and the City of Grover Beach to the south (Figure 1 and Figure 2). Most of the activities available at the beach are passive in nature such as hiking, swimming, surf fishing, wildlife (bird) viewing, and horseback riding. The park offers day use facilities such as picnic tables, restrooms, and a visitor's center, and two campgrounds provide overnight facilities.

Oceano Dunes SVRA

Oceano Dunes SVRA (Figure 2) offers 5.5 miles of beach and 1,500 acres of sand dunes available for motorized and non-motorized recreation, which attracts visitors from throughout the United States. Recreational use at Oceano Dunes SVRA differs depending on which area of the park is visited. The area north of Post 2 is designated as a day-use only area and predominately used by people who want to drive their street legal vehicles on the beach. The area south of Post 2, about one mile south of the Pier Avenue entrance, is designated as a camping and OHV use area and is predominately used by OHV enthusiasts. Non street-legal vehicles must be transported to this point before unloading. Camping is allowed anywhere on the beach and the open dune area south of Post 2. There are no designated campsites, but camping is limited to no more than 1,000 registered camping units, or one street legal motorized vehicle registered to camp, per day.

Located in the southern portion of Oceano Dunes SVRA, the Oso Flaco Lake Natural Area offers two freshwater lakes, Oso Flaco and Little Oso Flaco. This area is popular with birdwatchers and other nature enthusiasts and features a boardwalk leading to the beach that allows visitors to catch brief glimpses of rare wildlife and plants. The Oso Flaco Lake Natural Area is open to pedestrians only and is geared toward hiking, fishing, and nature study.

3.10.3 Discussion

Would the proposed project:

a. Physically divide an established community?

No Impact. There is no established community within the project area as all areas to be treated are within state park property.

b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The project provides management of the riparian areas within Pismo State Beach and Oceano Dunes SVRA. The proposed maintenance activities are consistent with both parks' General Development Plan, which mandate protection and management of natural resources.

The project maintenance areas are within the coastal zone and the work activities are consistent with the County LCP and Pismo Beach LCP policies governing drainage channels and riparian habitat. The County LCP identifies coastal streams as environmentally sensitive habitat areas and requires that their biological productivity and quality be protected. County LCP Policy 23.07.174(b) limits stream alterations to water supply projects, flood control projects when there are no other methods available for protecting existing development, and projects for improvement of fish and wildlife habitat. Likewise, Pismo Beach LCP Policy CO-28 limits dredging, grading, and filling work in natural channels to flood control projects, bridge construction, water supply projects, and laying pipelines. The proposed routine riparian maintenance work would remove the sediment clogging culverts and the debris, downed vegetation, and emergent vegetation blocking water movement through Pismo Lake Spillway and downstream areas of Meadow and Carpenter Creeks. These activities would provide flood control by removing flow impediments and improve riparian habitat values for native species using the waterways. The project's enhancement of riparian habitat values is consistent with County LCP Policy 20 to protect coastal streams. The project's stream channel work to improve water flow is consistent with County LCP Policy 23.07.174(b) and Pismo Beach LCP Policy CO-28 allowing channel work for flood control purposes.

Trimming riparian vegetation would be minimal and done only for the purpose of maintaining safe public access. This is consistent with County LCP Policy 23.07.174(e). Pismo Beach LCP Policy CO-14 may not apply to the CDP approval process for this project. If it does apply, project removal of diseased trees would need to be replaced at 4:1 ratio as required by LCP Policy CO-14(3). OHMVR Division has incorporated at 1:1 replacement ratio into the project as a Best Management Practice (Table 2) and is prepared to use a higher replacement ratio for purposes of complying with local permit requirements. The project would not remove groupings of trees or otherwise result in a significant disruption of riparian vegetation. The project is consistent with Pismo Beach LCP Policy CO-14.

The project activities are subject to approval of a Streambed Alteration Agreement from CDFG. By submitting project plans to these regulatory agencies for review and approval, the project is in compliance with County LCP Policy 22.

c. Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The project site is not located in an area covered by a habitat conservation plan or natural community conservation plan. A habitat conservation plan is being developed for Pismo State Beach and Oceano Dunes SVRA; however, it has not yet been finalized.

3.11 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local -general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.11.1 Discussion

Would the proposed project:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

No Impact. The project would not affect any known mineral resources of regional or local importance as none are mapped to exist in the area (<http://sloplanning-maps.org>).

- b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

No Impact. No locally important mineral resources are designated at this site in the San Luis Obispo County General Plan. The project would not result in the loss of availability of any locally important mineral resources.

3.12 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.12.1 Regulatory Setting**San Luis Obispo County Noise Ordinance**

Sections 23.06.044-050 of the County Noise Ordinance establish standards for acceptable exterior and interior noise levels and describe how noise is to be measured. These standards are intended to protect persons from excessive noise levels, which are detrimental to the public health, welfare, and safety and contrary to the public interest because they can interfere with sleep, communication, relaxation and the full enjoyment of one's property; contribute to hearing impairment and a wide range of adverse physiological stress conditions; and adversely affect the value of real property.

The standards of Sections 23.06.044-050 are not applicable to noise from activities conducted in public parks, playgrounds, school grounds, or from school athletic and entertainment events. The County Noise Ordinance standards do not apply to Pismo State Beach or Oceano Dunes SVRA where the project activities are proposed.

3.12.2 Environmental Setting**Sound Measurement**

Noise is unwanted sound. Sound intensity is measured on the logarithmic decibel scale (dB), usually with a frequency sensitivity that matches the human ear, called "A-weighting." Thus, environmental measurements are reported in dBA, meaning decibels on the A-scale. The

logarithmic scale means that a sound level reported as 60 dBA has 10 times the sound energy as a sound with a level of 50 dBA.

Human hearing matches the logarithmic A-weighted scale: it normally takes an increase of 3 dB to be perceptible as a change in intensity, although in a complex noise environment such as along a busy street, it may take an increase of 5 dB to be noticeable. A 10 dB increase makes a sound seem twice as loud.

Normal conversation is in the range from 50 to 65 dBA; with levels rising as the distance between speakers increases or as background noise level rises. Generally, as environmental noise exceeds 50 dBA, it becomes intrusive and above 65 dBA, noise becomes excessive. Table 5 lists various noise sources and their effects.

Table 5. Noise Sources and Their Effects		
Noise Source	Decibel Level	Noise Effect
Jet take-off (at 25 meters)	150	Eardrum rupture
Aircraft carrier deck	140	Earphones at high level
Jet take-off (at 100 meters)	130	
Thunderclap, live rock music, chain saw	120	
Steel mill, riveting, auto horn at 1 meter	110	Human pain threshold
Jet take-off (at 305 meters), outboard motor, power lawn mower, motorcycle, chain saw, farm tractor, jackhammer, garbage truck	100	Serious hearing damage (8 hrs)
Busy urban street, diesel truck, food blender	90	Hearing damage (8 hrs)
Garbage disposal, dishwasher, average factory, freight train (at 15 meters)	80	Possible hearing damage
Freeway traffic (at 15 meters), vacuum cleaner	70	Annoying
Conversation in restaurant, office, background music	60	Quiet
Quiet suburb, conversation at home	50	"
Library	40	"
Quiet rural area	30	Very Quiet
Whisper, rustling leaves	20	"
Breathing	10	"
	0	Threshold of hearing

Source: Temple University Department of Civil/Environmental Engineering
(www.temple.edu/departments/CETP/enviro10.html)

Environmental sound levels usually vary over time. The weighted average of a variable sound is expressed as the equivalent noise level (Leq) which is the continuous sound level with the same total energy over a given time period. Other noise descriptors of variable sound are values such as L10, L25, L50 and L90 – decibel levels that are exceeded 10 percent, 25 percent, 50 percent

and 90 percent of the time, respectively. Those measures help show how “noisy” it gets (L10) or what the background level is (L90).

Noise exposure over a day can be described by the DNL (day/night level), a measurement that represents a 24-hour noise impact on a community. The 24-hour day is divided into a 15-hour daytime period and a 9-hour nighttime period. A 10 dB “penalty” is added to noise levels occurring during the nighttime hours (10 p.m. to 7 a.m.), meaning 10 dB is added to actual levels measured during the nighttime when calculating the 24-hour average. For example, a 45 dBA nighttime sound level contributes as much to the overall average as a 55 dBA daytime sound level.

Community Noise Equivalent Level (CNEL) is similar to the DNL except that it includes an additional 5 dBA penalty for noise events that occur during the evening (7 p.m. to 10 p.m.) time period. Either DNL or CNEL may be used to identify community noise impacts; in practice, the difference between them is small.

Existing Conditions

The daytime noise environment at project maintenance sites is typical of a public park setting ranging from 60 to 70 dBA depending on the level and nature of the public activities taking place. Some project sites are closer to public use areas (Meadow Creek at North Beach Campground and Oceano Lagoon Trail near Oceano Campground), while others are remote (Pismo Lake spillway, Meadow Creek at Grand Avenue overcrossing, and Oso Flaco Lake along the Causeway).

3.12.3 Discussion

Would the proposed project:

- a. **Expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Less Than Significant Impact. Noise levels would increase at treatment sites by as much as 30 dBA during the use of heavy equipment or power tools, such as chain saws. The noise would be intermittent as equipment use is needed, and would be limited to the hours between 7:00 a.m. and 9:00 p.m., Monday through Friday, and between 8:00 a.m. and 5:00 p.m. Saturday or Sunday. Equipment operation would occur over a few consecutive days at any one maintenance site.

There are no permanent residents in close proximity to the project treatment sites, and visitors to the State Beach would have limited exposure to the noise generated at the work sites. Due to the short-term nature of noise generation and the limited exposure of the public to the work sites, the impact would not be significant.

As noted above, the County Noise Ordinance standards do not apply to Pismo State Beach or Oceano Dunes SVRA where the project activities are proposed.

- b. **Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?**

No Impact. The treatment activities would not create or expose persons to excessive ground borne vibration or noise.

- c. **A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

No Impact. The project does not involve any permanent activities that would increase ambient noise levels. Work at each treatment site would be done on an as needed basis.

- d. **A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

Less Than Significant Impact. The project would not create a substantial temporary or periodic increase in ambient noise levels. As mentioned in Response a. above, use of heavy equipment and chain saws would result in a temporary increase in noise levels at specific treatment sites. These are common noises associated with maintenance of parks would have short duration with minimal public exposure. The impact would be less than significant.

- e. **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

No Impact. The nearest airport to the project site is the Oceano County Airport, located 0.2 miles south of the Oceano SVRA. The project would not expose people residing or working in the project area to excessive noise levels.

- f. **For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

No Impact. The proposed project is not within the vicinity of a private airstrip.

3.13 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.13.1 Discussion:

Would the proposed project:

- a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

No Impact. The project would not induce population growth in the community of Oceano or its surrounding area. No population increase or housing demand would be generated as a result of the project. The project would not add any residents to the area.

- b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

No Impact. The project would not displace existing housing at the State Beach, as there is none at the project site.

- c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

No Impact. The project would not displace any people, as it consists of routine maintenance of wetlands and riparian areas.

3.14 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.1 Discussion

Would the proposed project:

- a. **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

- i. Fire protection?
- ii. Police protection?
- iii. Schools?
- iv. Parks?
- v. Other public facilities?

No Impact. The project does not increase the need for fire or police protection services or create an adverse impact on such services it only involves routine maintenance work. The project would not result in increased number of students served by local schools or affect the demand on parks. No other public facilities would be affected by the project.

3.15 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.15.1 Discussion

Would the proposed project:

- a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

No Impact. The project would not increase the visitor use of Pismo State Beach, Oceano Dunes SRVA, or nearby community parks in Oceano or generate demand for recreational facilities.

- b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

No Impact. The project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

3.16 TRANSPORTATION/TRAFFIC

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.16.1 Discussion

Would the proposed project:

- a. **Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

- b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

No Impact. The project involves conducting maintenance activities at Pismo State Beach and Oceano Dunes SVRA. The project would not result in increased visitor use of the parks. The use of maintenance vehicles for project activities would not generate substantial increased traffic on local roads, result in increased congestion, or otherwise affect the circulation system.

- c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

No Impact. The project involves conducting maintenance activities at Pismo State Beach and Oceano Dunes SVRA. It would not affect air traffic patterns.

- d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

No Impact. The project would not affect the existing road network or introduce a design feature or incompatible uses affecting road safety.

- e. Result in inadequate emergency access?**

No Impact. The proposed project would not result in inadequate emergency access.

- f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

No Impact. The proposed project would not conflict with adopted alternative transportation policies as it would not affect any existing alternative transportation facilities.

3.17 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.17.1 Discussion

Would the proposed project:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. The project does not involve wastewater treatment. No uses or activities are proposed at the site that would generate wastewater that would exceed treatment requirements.

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The project would not require construction of new or expanded water or wastewater treatment facilities.

- c. **Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

No Impact. The project would not require the construction of new storm water facilities or expansion of existing facilities.

- d. **Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

No Impact. The project does not involve use of water supplies or require new or expanded entitlements.

- e. **Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

No Impact. The project does not require any wastewater treatment.

- f. **Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

No Impact. The project would not conflict with any regulations related to solid waste. Woody debris would be chipped and hauled to other areas of the parks where it would be used for park purposes. Sediment would be hauled off to a waste disposal site or spread in appropriate areas within the park.

- g. **Comply with federal, state, and local statutes and regulations related to solid waste?**

No Impact. The project would not conflict with any regulations related to solid waste. All debris removed from the waterways and wetlands would be disposed of at a proper waste disposal facility.

3.18 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means the incremental effects of past projects, the effects of other current projects, and the effects of probably future projects as defined in Section 15130.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.18.1 Discussion:

- a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

Less Than Significant Impact with Mitigation. The project would employ on-site monitoring during construction activities by qualified specialists to preserve quality of the environment and sensitive habitats and species. Furthermore, OHMVR Division staff would consult with regulatory agencies to be sure that any impacts to special status species or regulated waters receive proper authorization. Mitigation measures (BIO-1 to BIO-5) are also proposed to avoid impacting sensitive species. The project would not affect important examples of the major periods of California history or prehistory.

- b. Does the project have possible environmental effects that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means the incremental effects of past projects, the effects of other current projects, and the effects of probable future projects as defined in Section 15130)?**

Less Than Significant Impact. The project would not have environmental effects that are individually limited, but cumulatively considerable. The project does not propose new uses at the project site and all impacts to disturbed habitats (riparian vegetation, hydric soils) would be minimized. There are no projects currently planned or proposed in the project area that would result in cumulative impacts when considered alone or in combination.

- c. **Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

Less Than Significant Impact. The project would not have environmental effects that would cause substantial adverse effects on humans, either directly or indirectly. Temporary impacts to air quality during construction would be avoided through the use of best management practices identified in Table 2, to minimize PM₁₀ emissions during construction.

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- Perez, Alicia. December 2011. Archaeologist for CDPR, OHMVR Division.

Chapter 5 REPORT PREPARATION

California Department of Parks and Recreation
Ronnie Glick – Senior Environmental Scientist
Oceano Dunes District
340 James Way, Suite 270
Pismo Beach, CA 93449
(805) 773-7180

TRA Environmental Sciences, Inc.
Victoria Harris – Project Manager
Kate Werner – Senior Analyst
Sara Jones – GIS Specialist
545 Middlefield Road, Suite 200
Menlo Park, CA 94025
(650) 327-0429

Figure 1. Regional Location

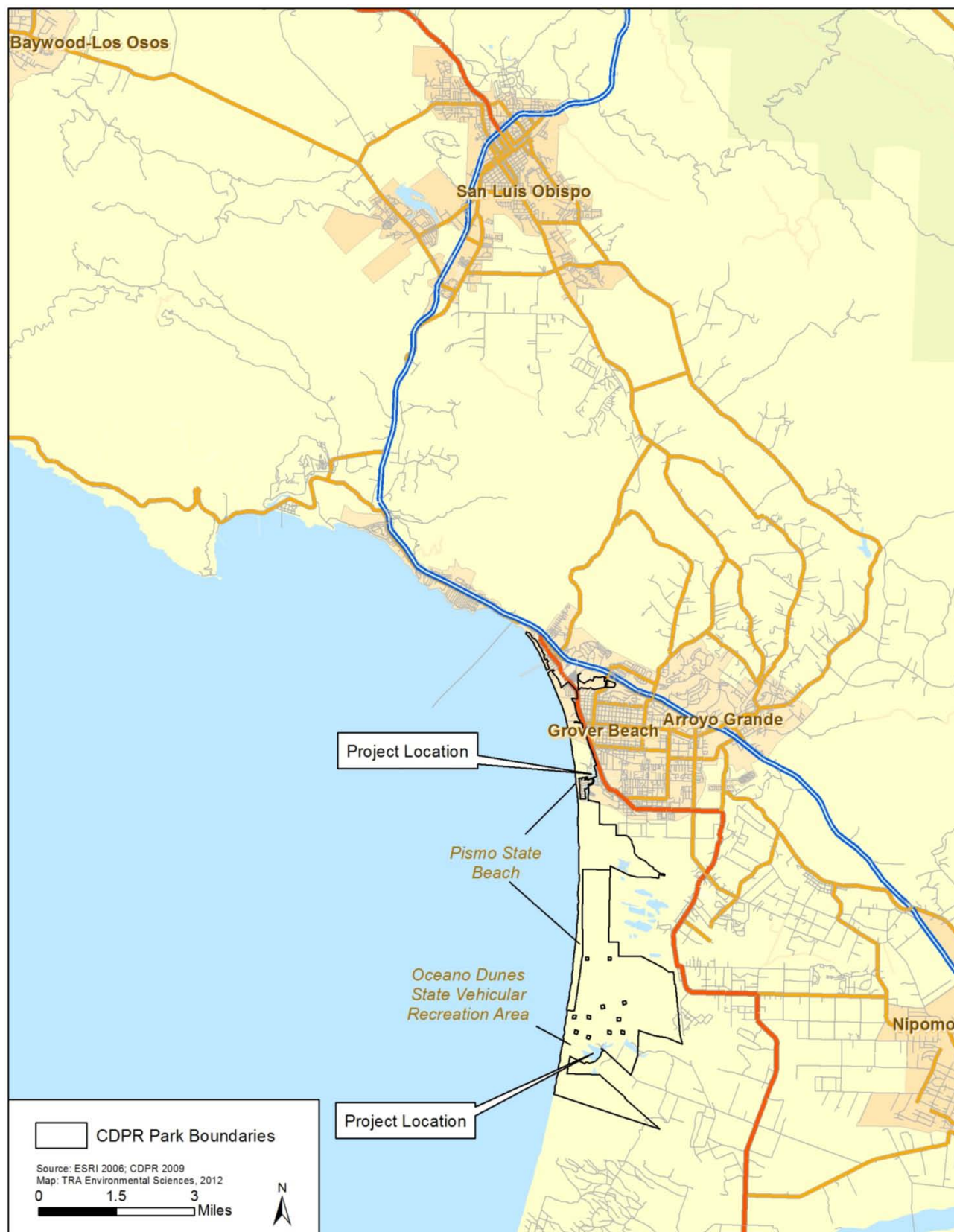


Figure 2. Project Locations



Figure 3. Pismo Lake, Meadow Creek, and Carpenter Creek

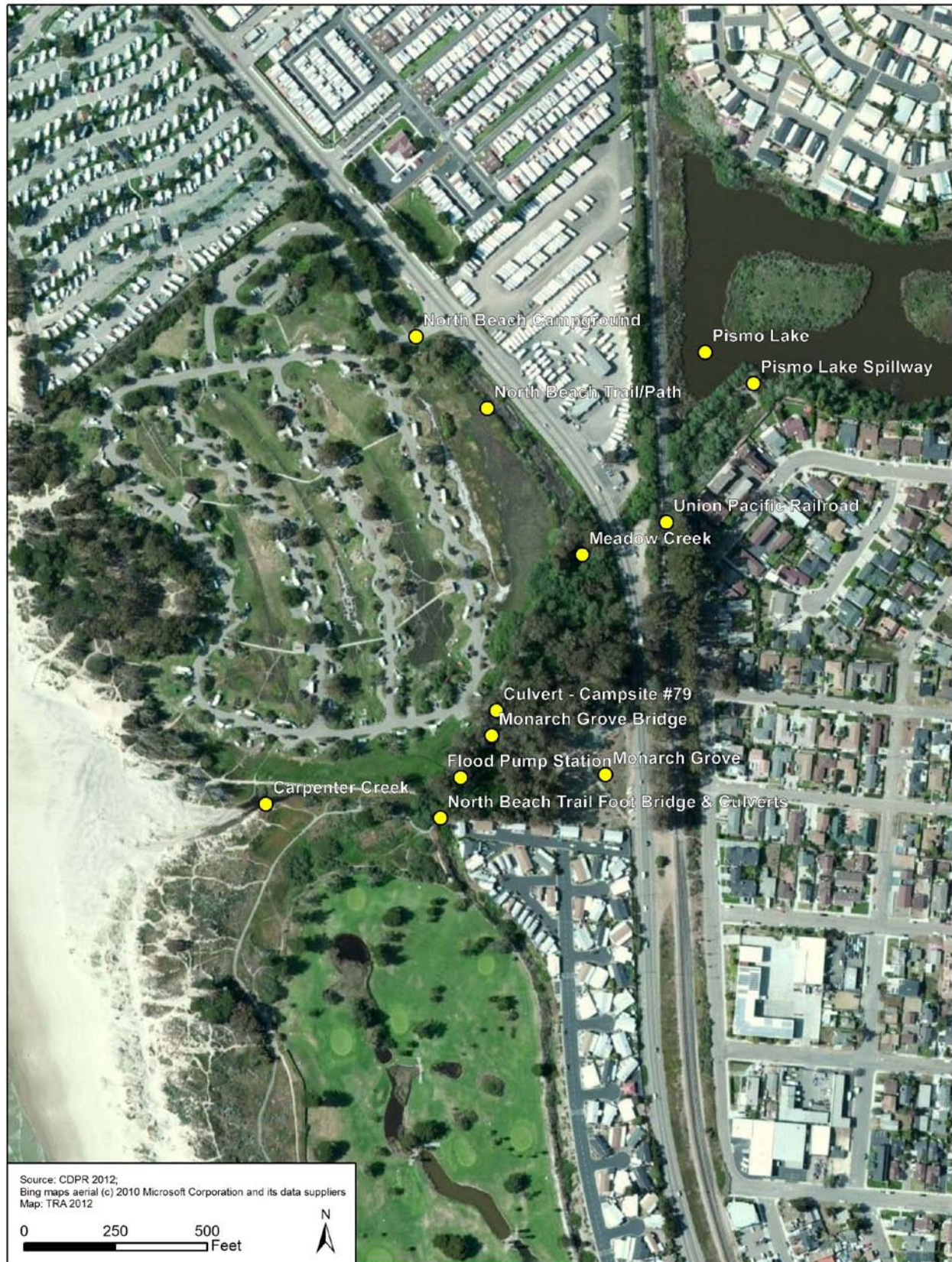


Figure 4. Meadow Creek at Grand Avenue



Figure 5. Meadow Creek and Oceano Lagoon

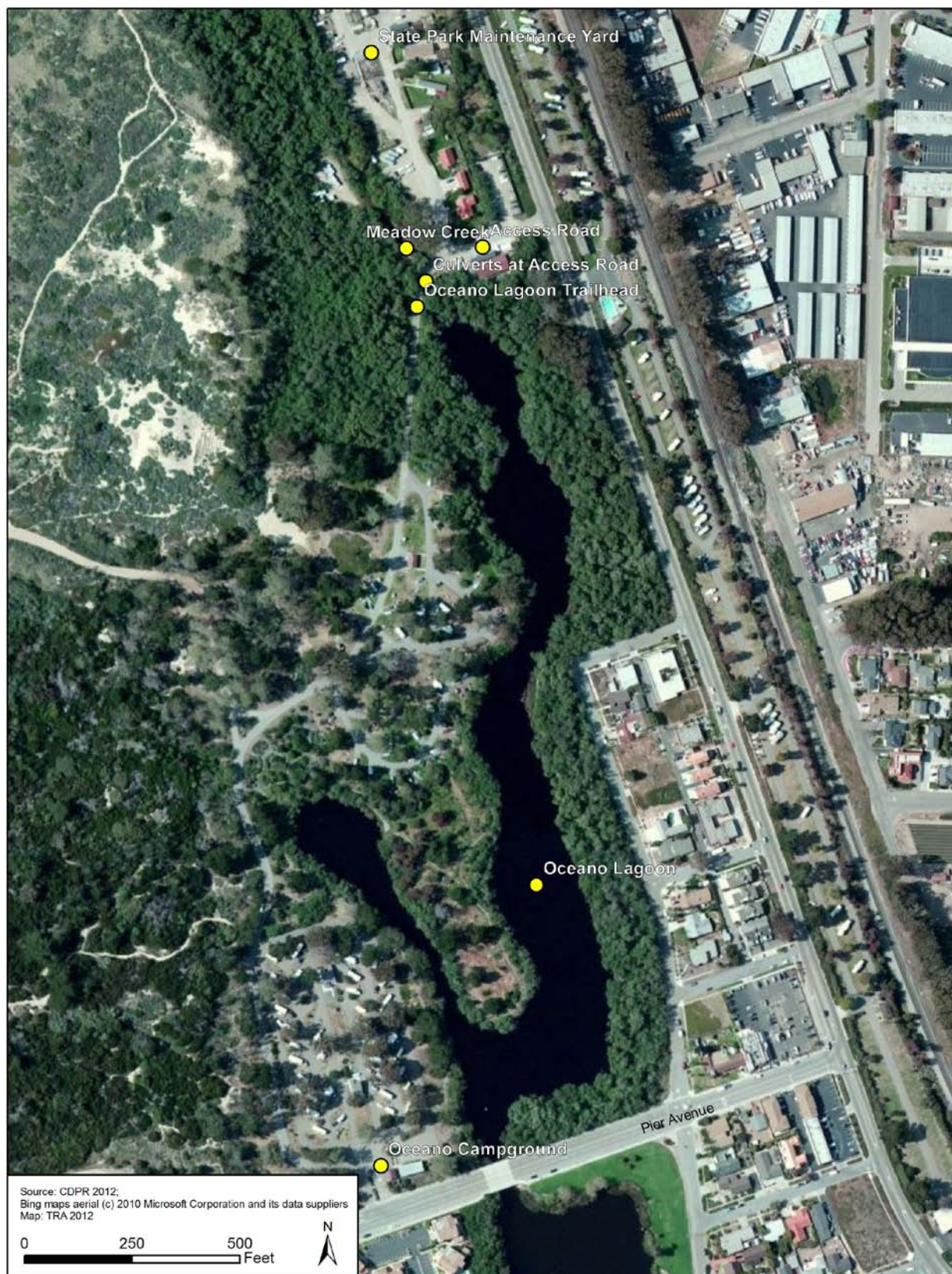


Figure 6. Oso Flaco Lake and Oso Flaco Causeway

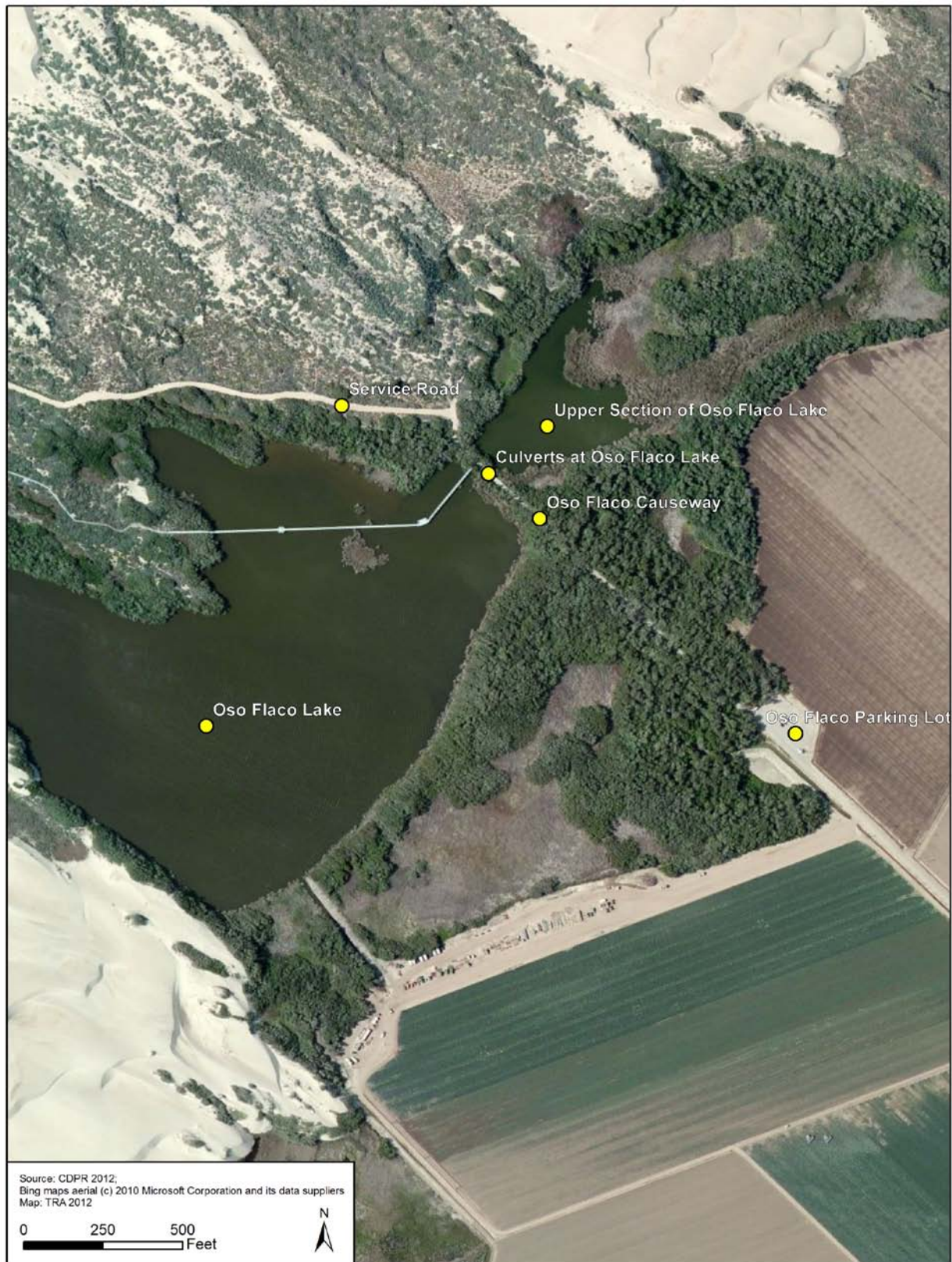


Figure 7. Special-Status Plant Species

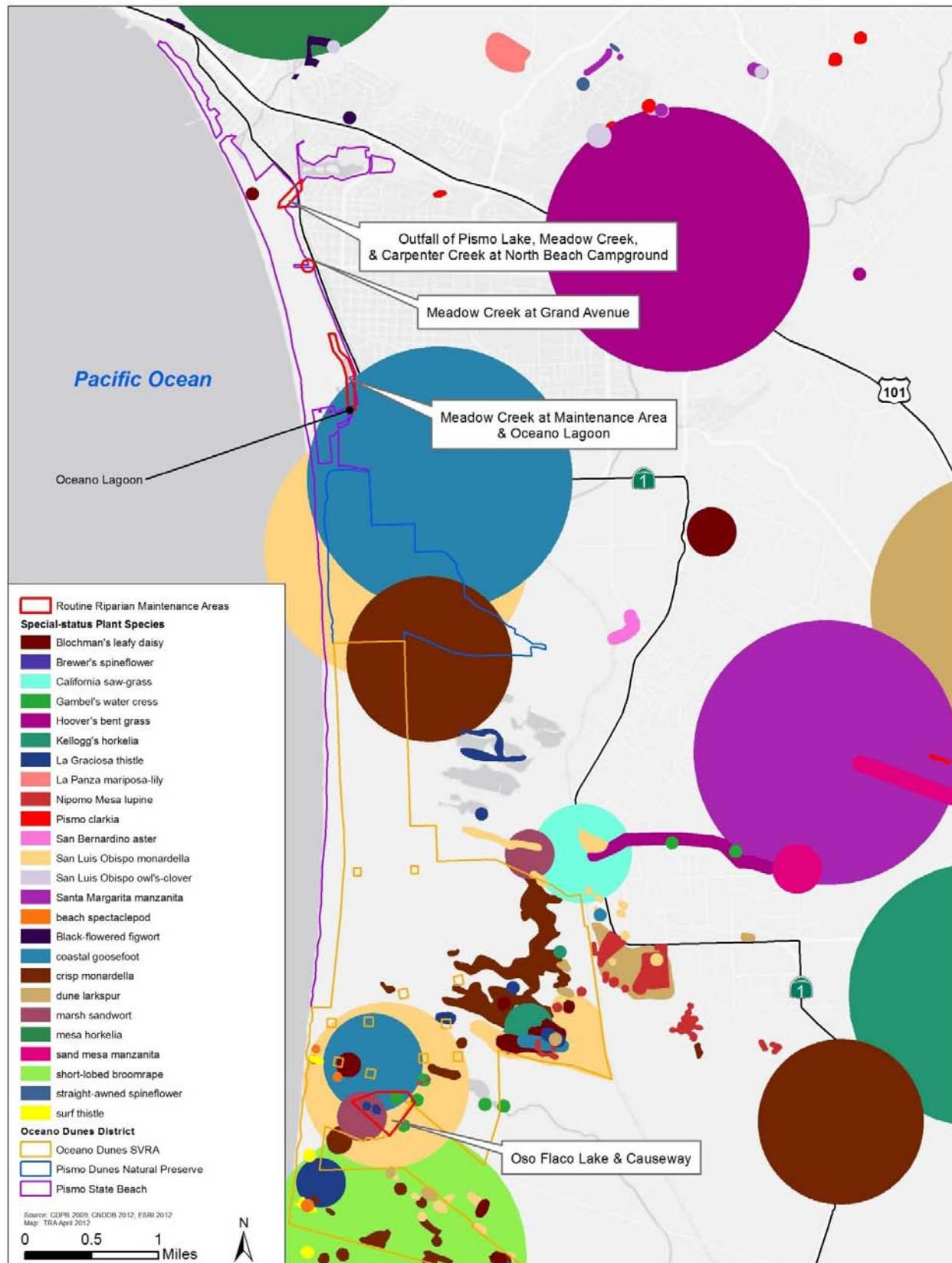
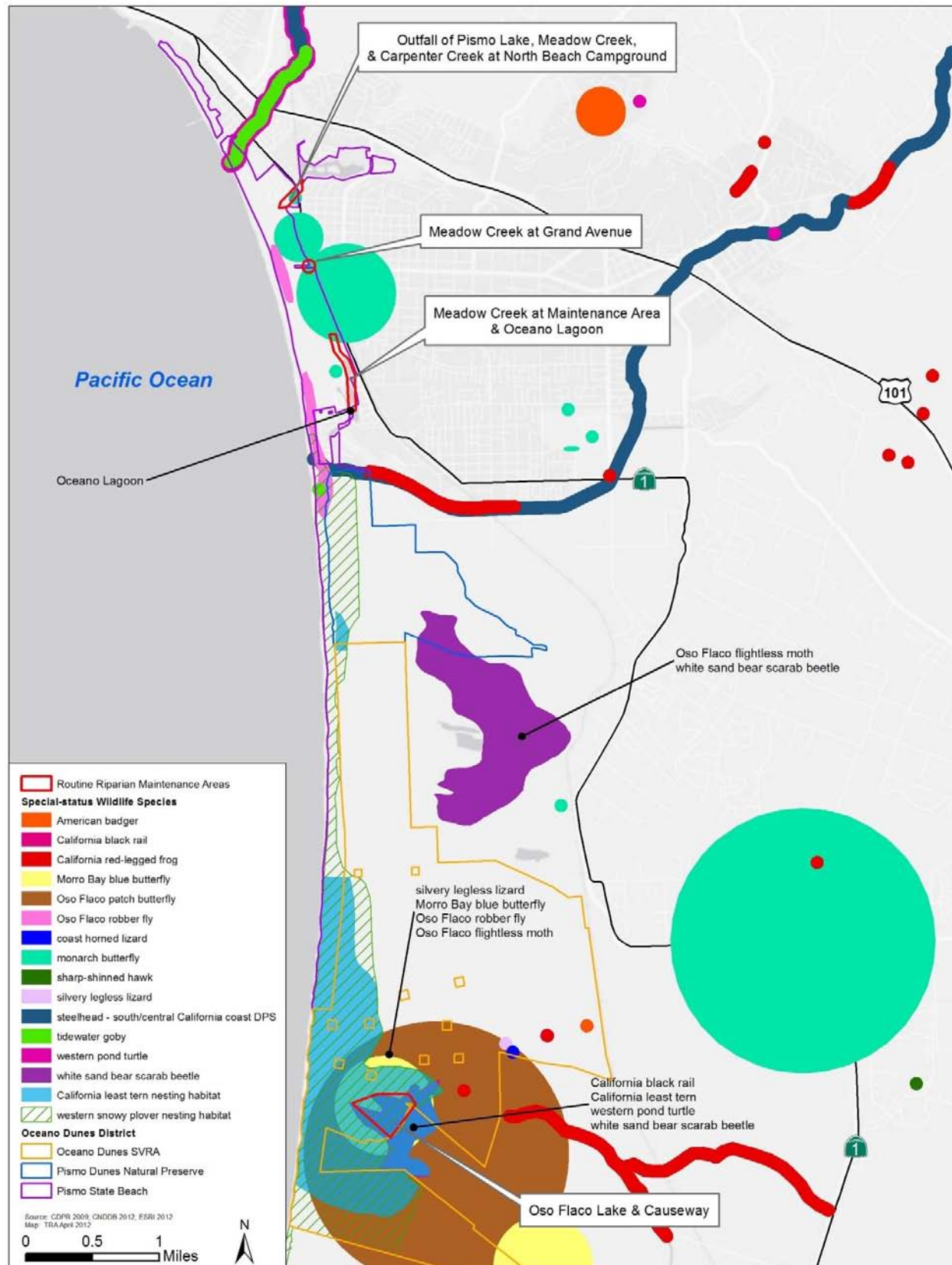


Figure 8. Special-Status Wildlife Species



Oceano Dunes District

Routine Riparian Maintenance MND/IS

APPENDIX A

SPECIAL-STATUS SPECIES LIST

TRA Environmental Sciences, Inc.

Appendix A: Special-Status Species with Potential to Occur within the Project Site

Common Name Scientific Name	Listing Status	Habitat	Potential to Occur in Project Sites
Fish			
Tidewater goby <i>Eucyclogobius newberryi</i>	FE, CSSC	Brackish water habitats along the Calif. coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Yes. This species has recently been found in Carpenter Creek.
Steelhead - south/central California coast ESU <i>Oncorhynchus mykiss irideus</i>	FT, CSSC	Fed listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River.	None. Steelhead are absent from Oso Flaco Creek due to the dam at the Lake and do not occur in Meadow or Carpenter Creeks. No habitat present on or adjacent to the treatment sites.
Amphibians/Reptiles			
Southwestern pond turtle <i>Actinemys marmorata</i>	CSSC	Permanent or nearly permanent bodies of water in many habitat types; below 6000 ft elev. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks. Need suitable nesting sites.	High. Suitable habitat occurs within treatment sites, and turtles have been observed in the Oceano Lagoon by CDPR staff.
Silvery legless lizard <i>Anniella pulchra pulchra</i>	CSSC	Loose soils of beach, chaparral, pine-oak woodland, and streamside growth of sycamores, cottonwoods, and oaks. Burrows in dune sand of beaches, washes, and loose soil near bases of slopes and near streams. Forages in leaf litter by day.	Low. No known occurrences or habitat within project treatment sites.
Coast (California) horned lizard <i>Phrynosoma coronatum</i> (frontale population)	CSSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Low. No known occurrences or habitat within project treatment sites.
California red-legged frog <i>Rana draytonii</i>	FT, CSSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Moderate. Potential habitat is within and adjacent to treatment sites but species has not been observed in project wetlands or waters.

Common Name Scientific Name	Listing Status	Habitat	Potential to Occur in Project Sites
Birds			
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT, CSSC	Sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	Low. No known occurrences or habitat within project treatment sites.
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depth of about 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat.	Low. No known occurrences or habitat within project treatment sites.
California brown pelican <i>Pelecanus occidentalis californicus</i>	SP	California brown pelicans usually rest on water or inaccessible rocks (either offshore or on mainland), but also use mudflats, sandy beaches, wharfs, and jetties.	Breeding: None. There are currently no California brown pelican breeding colonies within the project area. Foraging: Low. Brown pelicans become fairly common on nearby beaches after the breeding season from June through October, but would not occur in the project areas.
California least tern <i>Sternula antillarum browni</i>	FE, SE	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	Moderate. No known occurrences or habitat within project treatment sites. However least terns have been observed foraging adjacent to treatment sites at Pismo Lake, Oceano Lagoon, and Oso Flaco Lake during their breeding season.
Plants			
Marsh sandwort <i>Arenaria paludicola</i>	FE, SE, CNPS 1b.1	Marshes and swamps. Growing up through dense mats of <i>Typha</i> , <i>Juncus</i> , <i>Scirpus</i> , etc. In freshwater marsh. 10-170m.	Moderate. This plant is present at the north end of Oso Flaco Lake in areas adjacent to project treatment sites.
La Graciosa thistle <i>Cirsium loncholepis</i>	FE, ST, CNPS 1b.1	Coastal dunes, brackish marshes, riparian scrub. Lake edges, riverbanks, other wetlands; often in dune areas. 5-185m.	Moderate. Potential habitat in close proximity to project treatment sites at Oso Flaco Lake.
Surf thistle <i>Cirsium rhotophilum</i>	ST, CNPS 1b.2	Coastal dunes, coastal bluff scrub. Open areas in central dune scrub; usually in coastal dunes. 3-60m.	Low. No known occurrences or habitat within project treatment sites.

Common Name Scientific Name	Listing Status	Habitat	Potential to Occur in Project Sites
California saw-grass <i>Cladium californicum</i>	CNPS 2.2	Freshwater and alkali marshes, seeps. Freshwater or alkaline moist habitats. 60-600m.	Low. No known occurrences or habitat within project treatment sites.
Pismo clarkia <i>Clarkia speciosa</i> ssp. <i>immaculata</i>	FE, CNPS 1b.1	Chaparral, cismontane woodland, valley and foothill grassland. On ancient sand dunes not far from the coast. Sandy soils, openings. 25-185m.	None. No known occurrences or habitat within project treatment sites.
Dune larkspur <i>Delphinium parryi</i> ssp. <i>Blochmaniae</i>	CNPS 1b.2	Chaparral, coastal dunes (maritime). On rocky areas and dunes. 30-375m.	Low. No known occurrences or habitat within project treatment sites.
Beach spectaclepod <i>Dithyrea maritima</i>	ST, CNPS 1b.1	Coastal dunes, coastal scrub. Formerly more widespread in coastal habitats in so. Calif. Sea shores, on sand dunes, and sandy places near the shore. 3-50m.	Low. On-site habitat is highly degraded but occurrences of species have not been recorded near the project treatment sites.
Blochman's leafy daisy <i>Erigeron blochmaniae</i>	CNPS 1b.2	Coastal dunes. Sand dunes and hills. 3-185m.	Low. On-site habitat is highly degraded but occurrences of species have not been recorded near the project treatment sites.
Hoover's button-celery <i>Eryngium aristulatum</i> var. <i>Hooveri</i>	CNPS 1b.1	Vernal pools. Alkaline depressions, vernal pools, roadside ditches and other wet places near the coast. 5-45m.	None. No habitat present on or adjacent to treatment sites.
Nipomo Mesa lupine <i>Lupinus nipomensis</i>	FE, SE, CNPS 1b.1	Coastal dunes. Dry sandy flats, restricted to back dunes, assoc. with central dune scrub habitat - a rare community type. 10-50m.	Low. No occurrences or habitat within project treatment sites.
Crisp monardella <i>Monardella crista</i>	CNPS 1b.2	Coastal dunes, coastal scrub. Often on the borders of open, sand areas, usually adjacent to typical backdune scrub vegetation. 5-120m.	Low. No known occurrences or habitat within project treatment sites.
San Luis Obispo monardella <i>Monardella frutescens</i>	CNPS 1b.2	Coastal dunes, coastal scrub. Stabilized sand of the immediate coast. 10-100m.	Low. No known occurrences or habitat within project treatment sites.
Gambel's watercress <i>Nasturtium gambelii</i>	FE, ST, CNPS 1b.1	Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. 5-1305m.	Moderate. Historical populations occurred at Oso Flaco Lake. At present there is no known population of genetically pure Gambel's watercress at Oso Flaco Lake.

Common Name Scientific Name	Listing Status ¹	Habitat	Potential to Occur in Project Sites
Black-flowered figwort <i>Scrophularia atrata</i>	CNPS 1b.2	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub. Sand, diatomaceous shales, and soils derived from other parent material; around swales and in sand dunes. 10-250m.	None. No known occurrences or habitat within project treatment sites.
San Bernardino aster <i>Symphyotrichum defoliatum</i>	CNPS 1b.2	Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, grassland. Vernal mesic grassland or near ditches, streams and springs; disturbed areas 2-2040m.	Low. No known occurrences or habitat within project treatment sites.
¹ Listing Status Key: FE – Federal Endangered FT – Federal Threatened FC – Federal Candidate FSS – USFS Sensitive Species SE – State Endangered ST – State Threatened SC – State Candidate CSSC – Calif. Species of Special Concern SFP – State Fully Protected		California Rare Plant Rank: CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere. CRPR 2: Plants rare, threatened, or endangered in Calif. but common elsewhere. CRPR 3: More information about this plant needed (Review List). CRPR 4: Limited distribution (Watch List). CRPR Threat Code extensions and their meanings: .1 – Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat) .2 – Fairly endangered in California (20-80% occurrences threatened) .3 – Not very endangered in California (<20% of occurrences threatened or no current threats known).	
Sources: California Natural Diversity Database (CNDDDB 2011) and 2011 field observations and local knowledge of CDPR Resource Ecology personnel.			

Oceano Dunes District

Routine Riparian Maintenance MND/IS

APPENDIX B

**PROGRAMMATIC BIOLOGICAL OPINION ON CLEAN WATER ACT SECTION
404 PERMITS AFFECTING CALIFORNIA RED-LEGGED FROG**

U.S. Fish and Wildlife Service



United States Department of the Interior

FISH AND WILDLIFE SERVICE

SACRAMENTO FISH AND WILDLIFE OFFICE

3310 El Camino Ave., Suite #130
Sacramento, California 95821-6340

VENTURA FISH AND WILDLIFE OFFICE

2493 Portola Road, Suite B
Ventura, California, 93003

January 26, 1999

Art Champ, Chief
Regulatory Branch
U. S. Army Corps of Engineers, Sacramento District
1325 J Street, Room 1480
Sacramento, California 95814-2922

Calvin Fong, Chief
Regulatory Branch
U. S. Army Corps of Engineers, San Francisco District
333 Market Street, Room 812
San Francisco, California 94105-2197

Richard Schubel, Chief
Regulatory Branch
U. S. Army Corps of Engineers, Los Angeles District
P. O. Box 53271, 11th Floor
Los Angeles, California 90053-2325

Subject: Programmatic Formal Endangered Species Act Consultation on Issuance
of Permits under Section 404 of the Clean Water Act or Authorizations
under the Nationwide Permit Program for Projects that May Affect the
California Red-legged Frog

Dear Messrs. Champ, Fong, and Schubel

This document transmits the biological opinion of the U.S. Fish and Wildlife Service (Service) on issuance of permits under section 10 (§10) of the Rivers and Harbors Act of 1899 and section 404 (§404) of the Federal Water Pollution Control Act, as amended (Clean Water Act), for projects that may affect the California red-legged frog (*Rana aurora draytonii*). This consultation document has been prepared pursuant to 50 CFR 402 of our interagency regulations governing section 7 of the Endangered Species Act of 1973, as amended (Act).

This programmatic consultation evaluates the effects on California red-legged frogs of certain activities authorized by the Army Corps of Engineers (Corps) under Clean Water Act and Rivers and Harbors Act permits in all of Napa, Solano, Contra Costa, Alameda, San Francisco,

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San Mateo (in part), Santa Clara, San Benito, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara and Ventura counties; all watersheds in Marin and Sonoma counties that drain toward San Francisco Bay; and in coastal draining watersheds in Marin and Sonoma counties, including and south of the Walker Creek watershed. Drainages in the Central Valley and south of the Transverse Ranges are excluded because the extreme rarity of the California red-legged frog in these areas warrants individual consultation in any circumstance where the Corps determines a project may affect the species.

San Francisco garter snakes (*Thamnophis sirtalis tetrataenia*) and California red-legged frogs may co-occur in western San Mateo County. Due to the rarity of the San Francisco garter snake, actions that would occur in western San Mateo County are excluded from this biological opinion.

CONSULTATION HISTORY

Since listing of the California red-legged frog, the Service and the Corps have consulted, both formally and informally, on a variety of projects. In some cases, temporary disturbance of habitat and incidental take of individuals in the form of mortality or harassment occurred, but resulted in no long-term adverse impacts to California red-legged frogs in the affected areas. Staff from Fish and Wildlife Service offices determined that many of the same protective measures, including the Corps' proposed special conditions and the Service's terms and conditions, were very similar from project to project. Consequently, both of the Fish and Wildlife Offices within the range of the species collaborated in the preparation of this biological opinion.

ADMINISTRATION OF THE BIOLOGICAL OPINION

This programmatic consultation will be implemented in the following manner. The Corps will begin the consulting process by making a determination of whether the action under consideration may affect the California red-legged frog, as required by the implementing regulations for section 7 of the Act. If the Corps determines the project is not likely to adversely affect the California red-legged frog, it will seek the Service's concurrence in writing pursuant to 50 CFR 402.14(b)(1). If the Corps determines the proposed action is likely to adversely affect the California red-legged frog, the Corps will next consider whether the potential effects of the proposed action may be covered by this biological opinion.

If the Service or the Corps determines that the potential effects of the proposed action, including the indirect, interrelated and interdependent effects, are too great for the action to be covered by this biological opinion, the standard provisions for section 7 consultation apply throughout the remainder of the review process. If the Corps finds that the proposed action meets the criteria for consideration under this biological opinion, the Corps shall contact the Service, in writing, for Service concurrence, generally within 30 days, with the Corps' determination. At this time, the Corps shall provide to the Service the following information (prior to authorization):

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1) a 7 ½ minute topographic map or a copy of the appropriate topographic map with the name of the map. Such maps shall indicate where the project site is located, restoration sites, and potential frog relocation sites; 2) a written description of the activity, including but not limited to, construction methods, time of year the work would occur, vegetation restoration and monitoring plans, and frog monitoring plan; and 3) one plan view and a minimum of one typical cross section indicating water bodies, vegetation types, work areas, roads, restoration sites, and refueling and staging areas.

Projects that do not meet the suitability criteria may be appended to this opinion, upon Service approval, if use of additional minimization measures sufficiently reduce the effects of the action to be consistent with the intent of this opinion. Projects that do not meet the suitability criteria, such as individual permit applications under section 404 of the Clean Water Act or section 10 of the Rivers and Harbors Act, may have effects on the frog similar in nature to those described under the Nationwide Permits below. The Service shall be available for consultation during all phases of project evaluation to assist the Corps with its effects determination.

Yearly, the Service shall evaluate the effects of actions that have occurred under this programmatic consultation to ensure that its continued implementation does not result in long-term adverse effects to the ecosystems upon which the California red-legged frog depends. This opinion may be modified to address problems with the programmatic process or excessive adverse effects on listed species.

BIOLOGICAL OPINION

Description of the Proposed Action

Suitability Criteria

Actions that fall under this consultation are projects that may adversely affect California red-legged frogs either by take of individuals, or through temporary disturbance or permanent loss of upland, riparian, or wetland red-legged frog habitat, or both, but which nonetheless do not contribute to a decline in California red-legged frogs in the affected area (see "Environmental Baseline" below). Actions that the Corps has permitted, and have undergone formal consultation with the Service, that meet these criteria include, but are not limited to: earthquake retrofitting, repair and widening of bridges, repair of bank protection, replacement of low-flow stream crossings with bridges, and small-scale stabilization of stream slopes.

Projects that meet the suitability criteria and may involve some or all of the preceding activities often occur under Nationwide Permits (NWP). To guide the Corps during project evaluation, the Service has reviewed the Nationwide Permits the Corps has issued under 33 CFR 330.3 (most recently described at 61 FR 65874) and has determined that projects typically authorized under the NWPs listed below (and amended herein) are likely to meet the suitability criteria described

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above, provided that: 1) the additional minimization measures provided herein are implemented; 2) projects are single and complete projects and not part of larger actions, such as housing subdivision or golf course projects; 3) projects would not, in the Service's opinion, take place in areas where populations of California red-legged frogs are so isolated that even the small effects described below may have significant impacts. When the NWP program is reauthorized the Corps shall evaluate the new program and its consistency with this biological opinion. If it is determined that there are differences in the effects, amount or extent of incidental take, new permits that were not considered, or other information not considered then this biological opinion will be reinitiated and amended as necessary.

Nationwide Permit Activities

- (#3) Maintenance.
- (#5) Scientific Measuring Devices.
- (#6) Survey Activities.
- (#7) Outfall Structures.
- (#12) Utility Line Discharges.
- (#13) Bank Stabilization, provided that activity is less than fifty (50) feet in length.
- (#14) Road Crossings.
- (#15) U.S. Coast Guard Approved Bridges.
- (#17) Hydropower Projects.
- (#18) Minor Discharges.
- (#19) Minor Dredging.
- (#23) Approved Categorical Exclusions
- (#25) Structural Discharges.
- (#27) Wetland and Riparian Restoration and Creation Activities.
- (#31) Maintenance of Existing Flood Control Facilities.
- (#32) Completed Enforcement Actions.
- (#33) Temporary Construction, Access and Dewatering.
- (#37) Emergency Watershed Protection and Rehabilitation.
- (#38) Cleanup of Hazardous and Toxic Waste.

Minimization of Adverse Effects

To the maximum extent practicable, projects authorized under this biological opinion shall be designed and implemented in such a way as to minimize adverse effects to California red-legged frogs or their habitat. To achieve that purpose, the following measures shall be taken as a minimum:

At least 15 days prior to the onset of activities, the applicant or project proponent shall submit the name(s) and credentials of biologists who would conduct activities specified in the following measures. No project activities shall begin until proponents have

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received written approval from the Service that the biologist(s) is qualified to conduct the work.

- 2 A Service-approved biologist shall survey the work site two weeks before the onset of activities. If California red-legged frogs, tadpoles, or eggs are found, the approved biologist shall contact the Service to determine if moving any of these life-stages is appropriate. In making this determination the Service shall consider if an appropriate relocation site exists. If the Service approves moving animals, the approved biologist shall be allowed sufficient time to move California red-legged frogs from the work site before work activities begin. Only Service-approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs.
- 3 Before any construction activities begin on a project, a Service-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the California red-legged frog and its habitat, the importance of the California red-legged frog and its habitat, the general measures that are being implemented to conserve the California red-legged frog as they relate to the project, and the boundaries within which the project may be accomplished. Brochures, books and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.
- 4 A Service-approved biologist shall be present at the work site until such time as all removal of California red-legged frogs, instruction of workers, and habitat disturbance have been completed. After this time, the contractor or permittee shall designate a person to monitor on-site compliance with all minimization measures. The Service-approved biologist shall ensure that this individual receives training outlined above in measure 3 and in the identification of California red-legged frogs. The monitor and the Service-approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the Corps and Service during review of the proposed action. If work is stopped, the Corps and Service shall be notified immediately by the Service-approved biologist or on-site biological monitor.
- 5 During project activities, all trash that may attract predators shall be properly contained, removed from the work site and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.
- 6 All fueling and maintenance of vehicles and other equipment and staging areas shall occur at least 20 meters from any riparian habitat or water body. The Corps and permittee shall ensure contamination of habitat does not occur during such operations. Prior to the onset of work, the Corps shall ensure that the permittee has prepared a plan to allow a prompt and effective response to any accidental spills. All workers shall be informed of

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the importance of preventing spills and of the appropriate measures to take should a spill occur.

- 7 A Service-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas shall be removed.
8. Project sites shall be revegetated with an appropriate assemblage of native riparian wetland and upland vegetation suitable for the area. A species list and restoration and monitoring plan shall be included with the project proposal for review and approval by the Service and the Corps. Such a plan must include, but not be limited to, location of the restoration, species to be used, restoration techniques, time of year the work will be done, identifiable success criteria for completion, and remedial actions if the success criteria are not achieved.
9. Stream contours shall be returned to their original condition at the end of project activities, unless consultation with the Service has determined that it is not beneficial to the species or feasible.
10. The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated, and these areas shall be outside of riparian and wetland areas. Where impacts occur in these staging areas and access routes, restoration shall occur as identified in measures 8 and 9 above.

Work activities shall be completed between April 1 and November 1. Should the proponent or applicant demonstrate a need to conduct activities outside this period, the Corps may authorize such activities after obtaining the Service's approval.
12. To control erosion during and after project implementation, the applicant shall implement best management practices, as identified by the appropriate Regional Water Quality Control Board.
13. If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than five millimeters (mm) to prevent California red-legged frogs from entering the pump system. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.
14. A Service-approved biologist shall permanently remove, from within the project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the

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maximum extent possible. The permittee shall have the responsibility to ensure that their activities are in compliance with the California Fish and Game Code.

Species Account

Description. The California red-legged frog is a relatively large aquatic frog ranging from 4 to 13 centimeters (1 1/2 to 5 inches) from the tip of the snout to the vent (Stebbins 1985). From above, the frog can appear brown, gray, olive, red or orange, often with a pattern of dark flecks or spots. The back of the frog is bordered on either side by an often prominent ridge (dorsolateral fold) running from the eye to the hip. The hind legs are well-developed with large, webbed feet. A cream, white, or orange stripe usually extends along the upper lip from beneath the eye to the rear of the jaw. The undersides of adult frogs are white, usually with patches of bright red or orange on the abdomen and hindlegs. The groin area sometimes exhibits bold black mottling with a white or yellow background.

Life History. California red-legged frogs breed from November through March; earlier breeding has been recorded in southern localities (Storer 1925). Males have paired vocal sacs and call in air (Hayes and Krempels 1986). Males appear at breeding sites from two to four weeks before females (Storer 1925). They typically call in small, mobile groups of three to seven individuals to attract females (Jennings and Hayes 1985). Females individually move toward a male or male calling group. Female California red-legged frogs deposit egg masses on emergent vegetation so that the masses float on the surface of the water (Hayes and Miyamoto 1984). Egg masses contain about 2,000 to 5,000 moderate-sized (2.0 to 2.8 mm in diameter; 0.08 to 0.11 inches), dark reddish brown eggs (Storer 1925, Jennings and Hayes 1985). Eggs hatch in 6 to 14 days (Storer 1925). Larvae undergo metamorphosis 3.5 to 7 months after hatching (Storer 1925, Wright and Wright 1949, Jennings and Hayes 1990). Egg predation is infrequent; most mortality probably occurs during the tadpole stage (Licht 1974) although eggs are susceptible to being washed away from high stream flows. Schneider and Nauman (1994) report that the California red-legged frog eggs have a defense against predation which is possibly related to the nature of the egg mass jelly. Schmieder and Nauman (1994) report that California red-legged frog larvae are highly vulnerable to fish predation; larvae appear to be most vulnerable to fish predation immediately after hatching when the nonfeeding larvae are relatively immobile. Sexual maturity can be attained at two years of age by males and three years of age by females (Jennings and Hayes 1985); adults may live 8 to 10 years (Jennings *et al.* 1992) although the average life span is considered to be much lower.

The diet of California red-legged frogs is highly variable. Tadpoles probably eat algae (Jennings *et al.* 1992). Hayes and Tennant (1985) found invertebrates to be the most common food item for adults. Vertebrates such as Pacific tree frogs and California mice (*Peromyscus californicus*), represented over half of the prey mass eaten by larger frogs (Hayes and Tennant 1985). Feeding activity probably occurs along the shoreline and on the surface of the water. Hayes and Tennant (1985) found juvenile frogs to be active diurnally and nocturnally, whereas adult frogs were largely nocturnal.

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Habitat. California red-legged frogs have been found at elevations that range from sea level to about 1,500 meters (5,000 feet). The frog uses a variety of habitat types, which include various aquatic systems, riparian, and upland habitats. The following habitat descriptions are meant to describe the range of habitat types utilized by California red-legged frogs. However, there is much variation in how frogs use the environment and in many cases frogs may complete their entire life cycle in a particular area without using other components (*i.e.*, a pond is suitable for each life stage and use of upland habitat or a riparian corridor is not necessary). California red-legged frogs are adapted to survive in a variable Mediterranean climate and survive temporal and spatial changes in habitat quality; the frog's variable life history enables it to change habitat use according to the year to year conditions and in response to adverse conditions. Populations appear to persist where a mosaic of habitat elements exists, embedded within a matrix of dispersal habitat. Here, local extinctions may be counterbalanced by recolonizations of new or unoccupied areas of suitable habitat. This interpretation corresponds with the notion that California red-legged frogs persist in what ecologists refer to as metapopulation; a collection of sub-populations that exchange dispersers.

Breeding Habitat. Breeding sites of the California red-legged frog are in aquatic habitats; larvae, juveniles and adult frogs have been collected from streams, creeks, ponds, marshes, sag ponds, deep pools and backwaters within streams and creeks, dune ponds, lagoons and estuaries. California red-legged frogs frequently breed in artificial impoundments such as stock ponds given the proper management of hydro-period, pond structure, vegetative cover, and control of exotic predators. The importance of riparian vegetation for this species is not well understood. While frogs successfully breed in streams and riparian systems, high spring flows and cold temperatures in streams often make these sites risky egg and tadpole environments. When this vegetation type is present, frogs spend considerable time resting and feeding in it; it is believed the moisture and camouflage provided by the riparian plant community provide good foraging habitat and may facilitate dispersal in addition to providing pools and backwater aquatic areas for breeding. Radio telemetry studies showed that individual California red-legged frogs move within the riparian zone from vegetated areas to pools (G. Rathbun, pers. comm.).

Breeding adults are often associated with dense, shrubby riparian or emergent vegetation and areas with deep (>0.7 meter) still or slow-moving water (Hayes and Jennings 1988); the largest summer densities of California red-legged frogs are associated with deep-water pools with dense stands of overhanging willows (*Salix* spp.) and an intermixed fringe of cattails (*Typha latifolia*) (Jennings 1988). However, frogs often successfully breed in artificial ponds with little or no emergent vegetation and have been observed in stream reaches that are not cloaked in riparian vegetation. An important factor influencing the suitability of aquatic breeding sites is the general lack of introduced aquatic predators.

California red-legged frogs are sensitive to high salinity. When eggs are exposed to salinity levels greater than 4.5 parts per thousand, 100 percent mortality occurs and larvae die when exposed to salinities greater than 7.0 parts per thousand (Jennings and Hayes 1990). Nussbaum *et al.* (1983) state that early red-legged frog (*Rana u. aurora*) embryos are tolerant of

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temperatures only between 9 and 21 degrees Centigrade (48 and 70 degrees Fahrenheit), and both the lower and upper lethals are the most extreme known for any North American ranid frog. Data specific to the California red-legged frog are not available.

Dispersal and Use of Uplands

At any time of the year, juvenile and adult California red-legged frogs may move from breeding sites. They can be encountered living within streams at distances exceeding three kilometers (1.8 miles) from the breeding site and have been found up to 30 meters (100 feet) from water in adjacent dense riparian vegetation for up to 77 days (Rathbun *et al.* 1993). During periods of wet weather, starting with the first rains of fall, some individuals may make overland excursions through upland habitats. Most of these overland movements occur at night. Evidence from marked frogs on the San Simeon coast of California suggests that frog movements via upland habitats of about one mile are possible over the course of a wet season and frogs have been observed to make long-distance movements that are straight-line, point to point migrations rather than using corridors for moving in between habitats (N. Scott, *pers. com.* 1998). Dispersing frogs in northern Santa Cruz County traveled distances from one-quarter mile to more than two miles without apparent regard to topography, vegetation type, or riparian corridors (J. Bulger, *in litt.* 1998). The manner in which California red-legged frogs use upland habitats is not well understood; how much time California red-legged frogs spend in upland habitats, patterns of use, and whether there is differential use of uplands by juveniles, subadults and adults are being studied. Dispersal distances are largely unknown and are considered to be dependent on habitat availability and environmental variability.

Summer Habitat. California red-legged frogs often disperse from their breeding habitat to forage and seek summer habitat. This could include boulders or rocks and organic debris such as downed trees or logs; industrial debris; and agricultural features, such as drains, watering troughs, spring boxes, abandoned sheds, or hay-ricks. California red-legged frogs use small mammal burrows and moist leaf litter (Jennings and Hayes 1994); incised stream channels with portions narrower and deeper than 46 centimeters (18 inches) may also provide habitat (61 FR 25813). This type of dispersal and habitat use, however, is not observed in all red-legged frogs and is most likely dependent on the year to year variations in climate and habitat suitability and varying requisites per life stage. For the California red-legged frog, this habitat is potentially all aquatic and riparian areas within the range of the species and includes any landscape features that provide cover and moisture (61 FR 25813); the distances that frogs will disperse to reach summer habitat is not fully understood and is currently a topic of study.

Distribution. The historical range of the California red-legged frog extended coastally from the vicinity of Point Reyes National Seashore, Marin County, California and inland from the vicinity of Redding, California southward to northwestern Baja California, Mexico (Jennings and Hayes 1985, Storer 1925, Hayes and Krempels 1986). The California red-legged frog has sustained a 70 percent reduction in its geographic range as a result of several factors acting singly or in combination (Jennings *et al.* 1992). Habitat loss and alteration, over-exploitation, and

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introduction of exotic predators were significant factors in the species' decline in the early- to mid-1900s. Reservoir construction, expansion of introduced predators, grazing and prolonged drought fragmented and eliminated many of the Sierra Nevada foothill populations. Only a few drainages are currently known to support California red-legged frogs in the Sierra Nevada foothills, compared to more than 60 historical records. Several researchers in central California have noted the decline and eventual disappearance of California red-legged frog once bullfrogs (*Rana catesbiana*) become established at the same site (L. Hunt, *in litt.*, 1993; S. Barry, *in litt.*, 1992; S. Sweet, *in litt.*, 1993). Bullfrogs prey on California red-legged frogs (Twedt 1993; S. Sweet, *in litt.* 1993) and interfere with their reproduction (Jennings and Hayes 1990, Twedt 1993, M.. Jennings, *in litt.*, 1993, R. Stebbins, *in litt.*, 1993). Because of these combined threats, the California red-legged frog was listed as threatened on May 23, 1996 (61 FR 25813).

Environmental Baseline

The mechanisms for decline of the California red-legged frog are poorly understood. Although presence of California red-legged frogs is correlated with stillwater pools deeper than about 0.5 meter, riparian shrubbery, and emergent vegetation (Jennings and Hayes 1985), there are numerous locations in the historical range of the frog where these elements are well represented yet California red-legged frogs appear to be absent. The cause of local extirpations therefore does not appear to be restricted to absolute loss of aquatic habitat (Shaffer and Fisher 1996). The most likely causes of local extirpation are thought to be changes in faunal composition of aquatic ecosystems, *i.e.*, the introduction of non-native predators and competitors; and landscape-scale disturbances that disrupt California red-legged frog population processes, such as dispersal and colonization. Subtle environmental changes, such as the introduction of contaminants or changes in water temperature, may also play a role in local extirpations. These changes may also promote the spread of predators, competitors, parasites and diseases.

The processes described above are known to be heightened by urbanization. For instance, an increase in certain native and nonnative predators and competitors accompanies an increase in the local human population; disruption of dispersal likely results from an increase in barriers and sinks; and changes in hydroperiod, water temperature, and chemical composition of water bodies are readily traced to irrigation, gray water disposal, and urban runoff.

Effects of the Proposed Action

Activities that would be covered under this biological opinion are those that would not cause ecosystem-scale changes and, therefore, would likely not contribute to the decline of the California red-legged frog. Direct impacts to adults, sub-adults, tadpoles, and eggs of the California red-legged frog in the footprint of projects covered by this biological opinion would include injury or mortality from being crushed by earth moving equipment, construction debris, and worker foot traffic. These impacts would be reduced by minimizing and clearly demarcating the boundaries of the project areas and equipment access routes and locating staging areas outside of riparian areas or other water bodies. Avoiding work activities during the breeding

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season would reduce adverse impacts, particularly to eggs and tadpoles. In addition, relocating individual California red-legged frogs may further minimize injury or mortality.

The capture and handling of California red-legged frogs to move them from a work area involves harassment of individuals. Mortality may occur as a result of improper handling, containment, or transport of individuals or from releasing them into unsuitable habitat. Improper handling, containment, or transport of individuals would be reduced or prevented by use of a Service-approved biologist. Removal of exotic species from a project site may result in lower mortality to resident California red-legged frogs, therefore minimizing the overall effects of the action.

Work activities, including noise and vibration, may harass California red-legged frogs by causing them to leave the work area. This disturbance may increase the potential for predation and desiccation. Minimizing the area disturbed by project activities and constraining activities to seasonal limits would reduce the potential for dispersal resulting from the action.

Tadpoles may be entrained by pump intakes, if such devices are used to dry out work areas. Screening pump intakes with wire with no greater than five millimeter (mm) mesh diameter should reduce the potential that tadpoles greater than eight weeks old would be caught in the inflow.

Some potential also exists for disturbance of habitat to cause the spread or establishment of non-native invasive species, such as giant reed (*Arundo donax*) or salt cedar (*Tamarix* spp.). Measures to prevent the spread or introduction of these species, such as avoiding areas with established native vegetation, restoring disturbed areas with native species, and post-project monitoring and control of exotic species, could reduce or eliminate this effect.

California red-legged frogs may sustain harassment and mortality from predators. If water that is impounded during or after work activities creates favorable habitat for non-native predators, such as bullfrogs, crayfish, and centrarchid fishes, California red-legged frogs may suffer abnormally high rates of predation. Additionally, any time California red-legged frogs are concentrated in a small area at unusually high densities, native predators such as herons, egrets, opossums, and raccoons may feed on them opportunistically. This impact can be minimized by avoiding creation of ponded water as a result of project actions unless approved by the Service and/or predator control.

Trash left during or after project activities could attract predators to work sites, which could, in turn, harass or prey on the listed species. For example, raccoons are attracted to trash and also prey opportunistically on the California red-legged frog. This potential impact can be reduced or avoided by careful control of waste products at all work sites.

Accidental spills of hazardous materials or careless fueling or oiling of vehicles or equipment could degrade water quality or upland habitat to a degree where the California red-legged frog is adversely affected or killed. The potential for this impact to occur can be reduced by thoroughly

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informing workers of the importance of preventing hazardous materials from entering the environment, locating staging and fueling areas a minimum of 20 meters from riparian areas or other water bodies, and by having an effective spill response plan in place.

Work in live streams or in floodplains could cause unusually high levels of siltation downstream. This siltation could smother eggs of the California red-legged frog and alter the quality of the habitat to the extent that use by individuals of the species is precluded. Implementing best management practices and reducing the area to be disturbed to the minimum necessary should assist in reducing the amount of sediment that is washed downstream as a result of project activities.

Under the provisions of this consultation, some features of the site may be permanently or temporarily altered. For example, a bridge retrofitted for earthquake safety may have slightly larger footings after work is complete, or a small culvert might create a pool. Minor alterations such as these likely do not constitute a consequential loss of habitat.

The potential exists for uninformed workers to intentionally or unintentionally harass, injure, harm, or kill California red-legged frogs. The potential for this impact could be greatly reduced by informing workers of the presence and protected status of this species and the measures that are being implemented to protect it during project activities.

The ongoing effects of this consultation on the California red-legged frog would be monitored through annual reports provided by the Corps to the Service. These reports would enable the agencies to determine how much habitat has been temporarily and permanently affected by the covered actions and how many California red-legged frogs have been killed or injured.

Based on analysis of data for habitats impacted by the Nationwide Permit Program, the Service has determined that upland, wetland and riparian habitats suitable for the California red-legged frog will be lost. The Service found that for Fiscal years 1993, 1994, and 1995, 59.37, 60.34, and 56.94 acres of wetlands respectively, including riparian habitat, were lost for reporting and non-reporting nationwide permits combined within the Corps' Sacramento and San Francisco Districts. The range for reporting nationwide permits was from 11.34 acres to 44.89 acres for fiscal years 1993 to 1997. Acres impacted for non-reporting nationwides was from 43.75 acres to 45.6 acres for fiscal years 1992 to 1995. These habitat impacts represent total acres impacted by the Nationwide Permit Program, and are not necessarily all California red-legged frog habitat. The Service does not have similar data for habitats impacted by the Nationwide Permit Program in the Los Angeles District.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future

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Federal actions unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Non-Federal activities expected to occur within the project area considered under this biological opinion include water treatment, potential release of toxic substances, water diversions, residential and commercial development activity, agricultural practices, intentional or unintentional release of native and non-native predators into water bodies, and grazing on private and municipal lands. The Service anticipates that the effects of these non-Federal activities would be addressed through section 10(a)(1)(B) permits. Habitat conservation plans that are required to obtain such permits would include measures that would minimize and mitigate the effects to the California red-legged frog resulting from the non-Federal activities. In addition, the persistence of the California red-legged frog in the affected area would not be diminished by the activities covered under this programmatic consultation. Therefore, the cumulative effects of the projects included in this biological opinion, considered together with other non-Federal actions, would not appreciably reduce the likelihood of survival and recovery of the California red-legged frog.

Conclusion

After reviewing the current status of the California red-legged frog, the environmental baseline for the area covered by this consultation, the effects of the proposed projects, and the cumulative effects, it is the Service's biological opinion that the proposed projects, as described in this consultation document, are not likely to jeopardize the continued existence of this species.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by impairing behavioral patterns including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The reasonable and prudent measures described below are nondiscretionary, and must be undertaken by the Corps so that they become binding conditions of any grant or permit issued to

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the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this Incidental Take Statement. If the Corps (1) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

The Service anticipates the following forms of incidental take

Based on historical data about habitat impacts from the Nationwide Permit Program, the Service anticipates that up to 60 acres of wetland and riparian habitat and up to 60 acres of upland habitat, suitable for the California red-legged frog, may be permanently or temporarily taken annually as a result of implementing the actions described in the project description. In addition, the Service anticipates that all adults, juveniles, tadpoles, and eggs of California red-legged frogs associated with the loss of 60 acres of wetland and riparian habitat and 60 acres of upland habitat may be taken through mortality, harm, or harassment resulting from project-related activities. The quantification of take by harassment, harm, and mortality is difficult to ascertain because of the species' small size and aquatic habitat. These factors make it difficult to detect where California red-legged frogs, particularly tadpoles, are and if any have been affected by an action. For actions covered by this consultation, some harassment and mortality could be directly observed from those captured during translocation efforts. However, mortality from other sources would be difficult to observe.

The observed take may be lower than the actual take. However, with the implementation of the reasonable and prudent measures, the effects of the unobserved take would not change our analysis of effects of the actions covered by the biological opinion.

Effect of the Take

It is the opinion of the Service that the effects of the actions included under the auspices of this formal consultation are not likely to jeopardize the continued existence of the California red-legged frog.

Reasonable and Prudent Measures

The following reasonable and prudent measure is necessary and appropriate to minimize the impact of take on the California red-legged frog:

Adverse effects to California red-legged frogs and their habitat shall be minimized to the extent possible.

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Terms and Conditions

To be exempt from the prohibitions of section 9 of the Act, the Corps must ensure that the permittees comply with the following term and condition, which implements the reasonable and prudent measure described above.

To implement the reasonable and prudent measure, the measures described in the “Minimization of Adverse Effects” section shall be fully implemented. These measures are hereby incorporated into this term and condition as requirements of proposed projects.

Disposition of Injured or Dead Specimens

Upon locating dead or injured California red-legged frogs, initial notification must be made in writing to the appropriate office of the Service’s Division of Law Enforcement. Notification by both telephone and writing also must be made to the appropriate Fish and Wildlife Office:

U.S. Fish and Wildlife Service
Division of Law Enforcement
3310 El Camino Avenue, Suite 140
Sacramento, California 95821-6340

U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
3310 El Camino Avenue, Suite 130
Sacramento, California 95821-6340
(916) 979-2725

U.S. Fish and Wildlife Service
Division of Law Enforcement
1633 Bayshore Highway, Suite 248
Burlingame, California 94010

U.S. Fish and Wildlife Service
Division of Law Enforcement
370 Amapola Avenue, Suite 114
Torrance, California 90501

U.S. Fish and Wildlife Service
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003
(805) 644-1766

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Notification shall occur within three working days of finding the dead or injured animal. The report shall include the date, time, location of any carcass, a photograph, cause of death, if known, and any other pertinent information.

Care shall be taken in handling injured animals to prevent additional injury. Injured animals may be released to the wild after receipt of concurrence from the Service. Care shall be taken in handling dead specimens to preserve biological material in the best possible state for later analysis. Standard preservation methods shall be used. The remains of intact California red-legged frogs shall be placed with the California Academy of Sciences Herpetology Department [Contact: Jens Vindum, Collections Manager, California Academy of Sciences Herpetology Department, Golden Gate Park, San Francisco, California, 94118, (415) 750-7037].

REPORTING REQUIREMENTS

The Corps shall require each permittee who makes use of the provisions of this programmatic consultation to prepare a compliance certification to be filed with the Corps and the Service to certify, after completion of construction, that the action was completed in accordance with the permit conditions. The information contained in the compliance certification shall include:

- 1) the type(s) of action(s) that occurred
- 2) the number of acres affected and habitat type (e.g., upland, riparian.);
- 3) the linear feet of work;
- 4) how the site(s) was restored and a description of the area after the completion of the action;
- 5) which measures were employed to protect California red-legged frogs;
- 6) how the site(s) was restored or, if no restoration occurred the justification for not conducting this work; and,
- 7) a description of the area after the completion of the action

The Corps shall provide to the Service annually a listing of permits authorized under this biological opinion. Such a list shall provide the name of the permittee, Corps authorization number, and the location. This is information the Corps routinely tracks and can be provided either as a paper version or electronically. The Service and the Corps shall meet annually to review this information as well as information provided by permittees. The Corps may desire to develop a reporting format in coordination with the Service soon after issuance of this biological opinion, which can be provided to permittees.

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Each compliance certification provided by the permittees shall contain maps as appropriate indicating the location of all actions. Each report shall have a table and photos keyed to the map as appropriate. The compliance certification shall also document the number of California red-legged frogs that were known to be taken, and the form of take (e.g., harassment by moving, mortality) during each project's activities. The Service recognizes that accurately quantifying the number of individuals that may have been taken may not be possible; in these cases, the reporting of all observations and relative numbers would provide useful information. The report shall also recommend modifications to future measures to enhance the protection of the California red-legged frog.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The recommendations provided here do not necessarily represent complete fulfillment of the agency's 7(a)(1) responsibilities for this species.

Coordinate with the Service to develop a conservation strategy for the California red-legged frog, including documenting past and present California red-legged frog localities, threats, and conservation opportunities.

2. Monitor the status of the California red-legged frog in areas of Corps jurisdiction to identify effects of urbanization on the resident California red-legged frog population.
3. The Corps should assist the Service in implementation of recovery actions identified by the Service during and after preparation of the recovery plan for the California red-legged frog.
4. The Corps, through its Federal projects, should develop and implement strategies for the conservation and recovery of the California red-legged frog.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

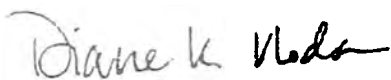
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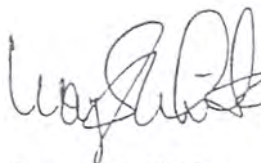
REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the project described in this biological opinion. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law), and if (1) the amount or extent of incidental take is exceeded, (2) new information reveals effects of the agency action may affect listed species or critical habitat in a manner or to an extent not considered in this opinion, (3) the agency action is subsequently modified in a manner that causes an effect on listed species or critical habitat that was not considered in this opinion, or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, the Corps shall not issue authorizations under this biological opinion. If you have any questions regarding this opinion, please contact the appropriate field office staff member as indicated in Enclosure A.

Sincerely



Diane K. Noda
Field Supervisor
Ventura Fish and Wildlife Office



Wayne S. White
Field Supervisor
Sacramento Fish and Wildlife Office

Enclosure

cc FWS:PARD(ES), Portland, OR
FWS:HC and ES, Washington, D.C.
FWS:CFO, Carlsbad, CA (Attn.: K. Berg)
FWS:LE, Sacramento, CA (Attn.: Senior Resident Agent S. Pearson)
FWS:LE, Burlingame, CA (Attn.: Special Agent K. McCloud)
FWS:LE, Chico, CA (Attn.: Special Agent J. Mendoza)
FWS:LE, Clovis, CA (Attn.: Special Agent F. Kuncir)
FWS:LE, Torrance, CA (Attn.: Senior Resident Agent L. Farrington)
DOI:SOL, San Francisco, CA (Attn.: Solicitor R. Kohn Glazer)
EPA:Wetlands, San Francisco, CA
CDFG, Regions 1, 2, and 3
ESRP, Fresno, CA